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ABSTRACT

Divided into three sections which deal with sex, race, and handicap stereotyping in career choice, the twenty-eight programs described here attempt to combat stereotypes among students and/or staff (K-12). Most descriptions list the goals of the program, target population, staffing and management, facilities and activities, program effectiveness assessment information, suggestions for replication, and the names and addresses of contact persons. Community involvement activities, program costs, and funding sources are listed where available. Career awareness programs (Project Equality and Project Hear), and programs to increase mathematical preparation of female students (Equals) or encourage more young women to enter scientific or technical careers (Visiting Women Scientist Program) are among the nine non-sex stereotyping programs included. Of the eleven programs intended to eliminate race stereotyping, one addresses staff stereotypes (Staff Awareness) while several address the career development of native Americans (Native American Career Development Program, Alaska Careers Exploration Program) and elementary school children of all races (Individual Differences). The eight programs described in the handicapped stereotyping section include an ice cream parlor run by learning disabled students (Cold Tongue Ice Cream Parlour), a science career workshop for physically handicapped students (Your SAVE/SELPH), and an industrial arts construction project (The Shed Project, Inc.) for emotionally disturbed junior high school students. (MER)

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PROGRAMS TO COMBAT STEREOTYPING IN CAREER CHOICE

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PROGRAMS DESIGNED TO COMBAT SEX STEREOTYPING IN CAREER CHOICE

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PROGRAMS DESIGNED TO COMBAT SEX STEREOTYPING IN CAREER CHOICE

Most individuals realize that sex role stereotypes exist. "Women and girls *should* act this way; men and boys *ought* to act that way." During the past ten years the presence and debilitating effects of such stereotypes have been discussed and brought to the public's attention. Yet few people realize how deeply ingrained these stereotypes are. Recognition that they exist does very little to eliminate them because they are maintained in so many ways. They are learned early and reinforced throughout life. All of us receive cultural and peer support for behaving in "acceptable" ways. As we learn to adhere to stereotypes we expect others to also. Most people have few opportunities to unlearn the stereotypes, and individuals are often punished for resisting them—for "acting inappropriately."

Yet sex role stereotypes are very limiting. Instead of being able to explore the full range of possibilities open to them, people are channeled into a certain subset of opportunities on the basis of their sex alone. Most recent attention has centered on how women have been limited by sex role stereotyping. To be sure, this is true—particularly in terms of the occupational opportunities which have traditionally been open to women. However, it is also true that stereotypes limit opportunities for men. Men, too, are expected to behave in certain ways, to choose certain occupations, and choices which run counter to the stereotypes are looked at askance.

SOME OF THE MORE COMMON STEREOTYPES

What are some of the more common stereotypes? They occur in all areas of life. Three broad categories of stereotypes are those associated with education and training, business and industry, and the individual and family. Examples of typical stereotypes for males and females in each of these categories are presented below.

Stereotypes in Education and Training

For females:
- Females are not good at math and science.
- Females do not like to do physical work or to get dirty and should not take courses which require this.
- Females are more artistic and nurturant than males.

For males:
- Males *must* achieve.
- Men who are interested in artistic and nurturant fields are "sissies."

Stereotypes in Business and Industry

For females:
- Females are too emotional; they can't work under pressure.
- Females are absent from work more than males.
- Females can't handle and don't want responsibility.
- Females don't work out of economic necessity—they aren't really serious about their jobs.

For males:
- A man's career must come before his family.
- Men should be cutthroat; the main objective is to get ahead.

Stereotypes in the Individual and the Family

For females:
- Females should be dependent, submissive, and passive.
- Females who are aggressive and successful are sexually unattractive.
- Females' primary purpose and objective should be to have and raise children.

For males:
- Males should be aggressive.
- Males should not show emotions.

SEX ROLE STEREOTYPING AND CAREER EDUCATION

Because career education is concerned with expanding the life options available to students, career educators must be concerned with eliminating sex role stereotyping. Sex stereotypes prescribe certain behaviors and alternatives and proscribe others, thus limiting life options. Because stereotypes are so deeply ingrained in society, substantial efforts will be required to eliminate them. The past ten years have heightened awareness of the problem; clear strategies for dealing with it are beginning to emerge. The program descriptions which are contained in this volume are presented in order to highlight some of these strategies and provide guidance for all educators.

COMMONALITIES AMONG THE PROGRAMS

Programs which appear to be successful in combatting stereotyping in carrer choice have been designed for two main target groups: students and staff. Often a program will have components for both groups.

Programs for Staff

The programs designed primarily for staff stress the importance of educators in creating a sex fair environment for students. When educators are cognizant of the existence and harmful effects of stereotypes they will

be better able to combat them. Thus one approach involves increasing awareness of stereotypes and the manner in which they are transmitted. In these programs staff are given examples of many stereotypes and are helped to examine the many ways in which these stereotypes are supported. A related approach involves helping staff to examine their personal stereotypes. All too often there is an inclination to feel that "others" may hold stereotyped views but "not me." This is rarely the case, and programs often provide staff with an opportunity to examine their own attitudes. When the examination reveals personal stereotypes, participants are made more aware of the pervasiveness of the problem.

Programs for Students

Making staff aware of the problem is valuable, but the successful programs also provide staff with clear suggestions and strategies for working with students. Students too can benefit from gaining a better understanding of the existence and effects of sex role stereotypes. Programs often provide students with opportunities to look at their environment—particularly the media—to see how sex roles are reinforced.

Related to this are attempts to provide nontraditional experiences for students. Some programs do this somewhat vicariously by providing nontraditional role models to students. Others provide students with opportunities to experience nontraditional roles. These programs are often linked to business and industry representatives who can serve as role models and provide nontraditional work experiences for students.

The program descriptions which follow are designed to provide you with necessary information and to spark your imagination about what might work best in your own setting. We are encouraged by the programs that follow and hope you will find them valuable.

PROJECT EQUALITY

Seattle, Washington

Reducing sex role stereotyping in the work world needs to begin at an early age with both females and males. Sex fair materials in career education, therefore, are of prime importance. Project Equality was created to provide materials that are free of sex stereotyping and that demonstrate to students that people of either sex can perform a variety of job tasks.

The program contains three sets of instructional materials to counter sex role stereotyping in both occupational and home roles. These materials are facilitated by a classroom teacher who has been trained in a two-day workshop by project staff. The materials may be used independently or in combination and provide students with role models and the opportunity for hands-on experience and peer discussion. They present simple, interesting, bias-free activities that demonstrate that work skills can be possessed by persons of either sex.

GOALS OF THE PROGRAM

The goal of the program is to expand students' perception of job options open to females and males alike. The program provides career awareness and encourages students to look at abilities and skills, rather than at sex, when viewing their future participation in the world of work.

TARGET POPULATION

The program is designed for boys and girls in grades K-6 and has been used with students from diverse ethnic backgrounds in metropolitan, suburban, and rural settings.

BACKGROUND AND DEVELOPMENT

The program was developed by the Highline School District in Seattle, Washington. The impetus for the project was a study of 258 district 5th graders in 1971. The study demonstrated that both boys and girls tended to see jobs in terms of masculine and feminine stereotypes, and that occupational aspirations of the 5th grade girls fell heavily into stereotyped female roles. The need for materials to counteract sex role stereotyping became apparent. The developers set out to provide materials that were free of sex stereotyping and that demonstrated to students that people of either sex could perform a wide variety of job tasks.

The project materials were developed and revised extensively during the first three years of project operation. Final field testing in 1977-78 was conducted outside the Highline District to assure that no student exposure to

materials had taken place in earlier years. Five school districts were involved in the field testing, including two metropolitan (Seattle and Tacoma), one rural (Issaquah), and two suburban (Bellevue and Northshore) school districts. Elementary students in these districts who used Project Equality instructional materials included White, Black, Hispanic-American, Native American, and Asian-American ethnic groups.

STAFFING AND MANAGEMENT

To plan, develop, carry out, and evaluate a sex stereotype-free career education program in the Highline School District, Project Equality operated with three people: a director, an information facilitator, and a secretary. However, for school districts adapting the program, a staffing plan involving a part-time director and a part-time secretary has proven to be satisfactory. The developers recommend that an adapting school district consider staffing requirements and activities in the following areas: planning, instructional material use, evaluation of student change, and feedback sessions with a consultant.

ACTIVITIES AND MATERIALS

The major thrust of the program has been the reduction of sex role stereotyping in students at K-6 grade levels using three sets of instructional materials: Occupational Simulation Packets, *The Yellow, Red and Blue Book,* and *Many Thousand Words . . . . Work Pictures.* The content and focus for each set is as follows:

1. *Occupational Simulation Packets.* This set of materials consists of six separate packets, each of which may be used alone. Two packets have been developed for use with grades K-2 students, two for students in grades 3-4, and two for students in grades 5-6. These packets are designed as a hands-on career education activity for elementary students based on the singling out of a salable work skill already possessed in some measure by the student, and which is useful in a wide variety of jobs. The student identifies and uses the skill in a hands-on simulated work experience. As students apply their salable skills in a variety of job-related activities, it becomes clear that (1) a skill is *not dependent on sex* and (2) a skill required for one type of work is often transferable to another type of work. Discussion questions for teacher use with the class also emphasize these two points. The materials needed and used for each activity accompany each packet. The packets include the following:

- *Color Discrimination.* This packet is used at grade levels K-2 and focuses on color discrimination, which is useful in such occupations as interior decoration and electrician. The activities include sorting bundles of wire and socks by color. The students go through three different job simulations related to a factory worker, shop clerk, and interior decorator. Many factory workers must deal with small items as

well as color-coded items, so the students sort telephone wires by color and, of course, most of them can do it. They feel successful; it's a fun, short activity. Completion time is 2-3 hours over a 2-3 week period.

- *Crawling and squatting.* Also used at grades K-2, this packet emphasizes the skills of crawling and squatting and demonstrates how these are useful in occupations such as plumber and stock clerk. The activities suggested in this packet include simulating stocking grocery shelves and crawling under houses to tighten pipes. Blocks, books, and chairs are used to form the inside of the house—and also to create shelves for the stock clerk activity. Completion time is 2-3 hours over a 2-3 week period.
- *Assembling.* This packet is used in grades 3-4 and uses the skill of assembling an item in a specific sequence. Assembling things in order is often done by factory workers and by workers in hardware stores, who often have to assemble items for customers. When students can follow instructions and assemble things in order, they have a definite and employable skill. The activities include assembling a ballpoint pen, a bicycle reflector, and various other items. Completion time is 2-4 hours over a 3-week period.
- *Creativity.* Also used with grades 3-4, this packet focuses on creativity, which is required in such occupations as artist and architect. The packet deals with the skills that are needed to create things from scratch. The activities included making puppets, weaving wall hangings, and other creative activities. Completion time is 8-10 hours over a 3-4 week period.
- *Oral Persuasion.* Used in grades 5-6, this packet emphasizes the skill of oral persuasion, which is employed in occupations such as lawyer, salesperson, and politician. The objective of this packet is to increase students' awareness that oral persuasion is a skill, which is used in many different jobs and which people have in varying degrees unrelated to either their sex or race. Completion time is 8-10 hours over a 2-4 week period.
- *Measuring.* Also used with grades 5-6, this packet employs math concepts while stressing measuring skills found in different occupations. Students study six different occupations which use measuring skills. The occupations include tailor/seamstress (tape measure), employment counselor (stopwatch), carpenter (10-foot tape), grocery store manager (scale), shoe salesperson (shoe stick), and advertising layout person (ruler). Completion time for this packet is 3-6 hours.

Lesson plans and required materials are included with the packets. The materials show great sensitivity to many kinds of discrimination. Illustrations show a mix of races as well as sexes, and a discussion of adaptations for handicapped children is included in the *Color Discrimination* and *Crawling and Squatting* packets.

2. *Yellow, Blue, and Red Book.* Used with grades 1-6, this three-ring binder notebook contains many activity descriptions which are printed on separate cards. There are divisions for 10-20 minute activities, 20-40 minute activities, and 40-plus minute activities. All activities are designed to help teachers and students expand their awareness of sex role stereotyping and broaden their view of roles that men and women can fill at home and on the job. In addition to instructions for carrying out the activities, each activity card indicates the related curriculum areas, the most appropriate grade levels, and the objectives for each activity.

3. *Many Thousand Words . . . Work Pictures.* This notebook, also used with grades 1-6, contains pictures of males and females (both adults and children) in a variety of nonstereotyped settings at home, school, and in the community. The "many thousand words" contained in the work pictures are intended to communicate a new vocabulary and educational experience to students. A key assumption is that students' perceptions of the world of work can be greatly expanded through visual communication; that seeing is a large part of believing. The *Many Thousand Words . . . Work Pictures* are assembled to complement and supplement existing materials which primarily depict females and males in traditional jobs and activities.

PROGRAM COSTS

A district adopting all project materials, though not planning to purchase supplementary commercial materials should plan to assume costs for the following:

- a two-day training session for staff members implementing the materials
- two half-day follow-up meetings after the training session
- Occupation Simulation Packets, *Yellow, Blue, and Red Book,* and the *Many Thousand Words . . . Work Pictures*

The project materials are relatively low in cost and the program can easily be implemented within any K-6 curriculum. The *Yellow, Blue, and Red Book* and *Many Thousand Words . . . Work Pictures* each sell for $22.95. The Occupation Simulation Packets sell for $5.95 each. Six kits containing all the materials used in the occupation simulations (play tunnels, tools, etc.) are available for a total price of $1,400. These materials, or reasonable facsimiles could be assembled at the adopting site.

PROGRAM EFFECTIVENESS

Teachers have been very responsive to incorporating Project Equality materials and related activities into their classrooms. The following comments are from a first-grade teacher in the Highline District.

> It's very easy to incorporate this (Project Equality materials) in first grade. At the beginning of the year you are teaching units

about the home and family and also about jobs at school. We just use this as part of our reading vocabulary development. We talk about what jobs Father does and what jobs Mother does. We introduce the words "work" and "skill," and we talk about the responsibilities at home and who should be responsible for the different jobs at home. We then go through the same thing at school, and talk about who should clean the erasers and who can pass the papers, etc. So, it's very easy to introduce this as part of the basic skill program of reading development.

The field testing of the instructional materials for Project Equality was conducted in five school districts other than the developer site during the 1977-78 school year. The experimental group contained 2,497 students and the control group included 2,762 students. Both groups were pre- and post-tested with the "Who Should" test, which was adapted from work originally done by Dr. Lynne Iglitzin of the University of Washington. It is an objective instrument designed to assess degree of sex role stereotyping. A K-2 and a 3-6 form of the test have been developed. Experts on sex role stereotyping at the elementary level reviewed the tests and confirmed their content validity. Test-retest reliability correlations were .62 for the K-2 form and .88 for the 3-6 form. Item validity coefficients averaged .52 for the K-2 form and .59 for the K-3 form. It was found that the K-2 students in the experimental group evidenced a 17.3% reduction in sex role stereotyping after exposure to Project Equality instructional materials, and the 3-6 students evidenced a reduction of 16.1%. The control groups showed little change over the same time period. Results were statistically significant ($p < .01$).

SUGGESTIONS FOR REPLICATION

These materials are designed to be adapted and suggestions for replication have been incorporated into the materials. Presently, project staff members are available as consultants to train local district staff to use the materials. Project staff suggest that adopting districts plan to involve at least the following personnel for a successful replication of the program:

- district career education director and/or curriculum director
- elementary principal
- elementary school librarian
- six elementary teachers

Additional suggestions for replication include the following:

- The project staff recommends that adopting districts disseminate information about the program to parents and community members before implementation. This gives these groups an opportunity to share their interest and concerns about the project with school district officials, and also builds support networks which will contribute to

the program's success. The project staff also feels that periodic "news bulletins" on project activities are useful for keeping parents and community groups informed.

- The concepts which are taught in the materials must be integrated into the total functioning of the classroom. This includes assigning duties along sex fair lines, making sure that discussion groups are sexually mixed, and encouraging open sharing and discussions within the classroom.

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THE HOUSE THAT JILL AND JACK BUILT
MULTICULTURAL/MULTIETHNIC/ WOMEN'S STUDIES PROGRAM

Berkeley, California

In Berkeley, California you can find a room full of second and third grade boys and girls busily hammering, sawing, and helping each other on carpentry projects. They are gaining basic carpentry skills while learning that boys and girls have equal abilities. In a sixth grade classroom students are learning about the accomplishments and pride of Osage Indian Maria Tallchief, and at the secondary level you may find a class discussing women and the industrial revolution. All of these activities are part of the Multicultural/ Multiethnic/Women's Studies Program of the Berkeley Unified School District. This program counteracts the deleterious effects of sex role and racial stereotyping by integrating equity concepts into the entire K-12 curriculum. Social studies has been selected as the primary vehicle through which these concepts are integrated. However, many resources and materials are available for teachers to incorporate into language arts, mathematics, and science as well. Program staff also provide inservice awareness sessions and technical assistance to all teachers in the district.

GOALS OF THE PROGRAM

The overall objectives of the program are based on the Berkeley Unified School District's goal to eliminate racism and sexism from the schools. The program endeavors to provide students with 1) a heightened sense of their own self-worth; 2) an understanding of the contributions of various cultures, ethnic groups, and women; 3) an ability to discern stereotypes; and 4) an acceptance of the changing roles of all people in this country. To achieve these objectives, ethnic and women's studies activities are integrated into every aspect of the curriculum. This description will highlight a unit entitled *The House that Jill and Jack Built* which uses carpentry as a vehicle for expanding the skills and aspirations of elementary students. It provides students with skills in using basic carpentry tools, and provides them with the opportunity to see that both sexes can be similarly skilled in using them.

TARGET POPULATION

The Berkeley Unified School District has a population which is approximately 45% White, 43% Black, 6% Asian, 5% Hispanic, and .2% Native American. Students come from families in all ranges of socioeconomic status. The full

Multicultural/Multiethnic/Women's Studies program operates in grades K-12 in the district. The carpentry-based unit was designed and implemented in a K-3 school.

BACKGROUND AND DEVELOPMENT

For many years, the Berkeley Unified School District has been concerned with the roles women and ethnic minorities play in society. In the sixties there were forerunners of this program which focused on relations among staff members, and between staff, students, and parents of the diverse cultural groups in Berkeley. In the seventies, separate Afro-American, Chicano, Asian, and Women's studies programs were instituted. In recent years the trend has been to integrate ethnic and women's studies into every aspect of the curriculum, rather than focusing on the separate areas. A coordinator was hired in 1978 to intergrate the separate components into a complete program and the Multicultural/Multiethnic/Women's Studies Program is the result.

The House that Jill and Jack Built was developed in the early 1970s by a staff member from the Berkeley Unified School District's Women's Studies Program, a staff member from Advocates for Women, a women's advocacy group located in San Francisco, and the principal and four teachers from a local elementary school. This unit has now been integrated into the broader effort.

STAFFING AND MANAGEMENT

The broader program is staffed by a full-time coordinator, a K-6 resource teacher who works primarily with the multicultural materials, and a clerk-typist. The coordinator and resource teacher work through district principals and department heads to implement the various components of the program. The principals and department heads then work with their instructional staffs, although program staff also work with individual teachers as needed. Program staff also conduct inservice training sessions for all teachers in the district.

The carpentry unit requires a part-time carpentry teacher who can instruct students (and their teachers) in basic carpentry techniques. All other aspects of the program are designed to be used by a classroom teacher. A commitment from approximately four teachers is probably necessary in order to justify the hiring of the carpentry instructor. If teachers possess basic carpentry skills, it is not necessary to hire the additional carpentry staff.

FACILITIES AND MATERIALS

The Multicultural/Multiethnic/Women's Studies Program makes use of a large library/resource room in the school district's Instructional Media Center. The coordinator and resource teacher have separate offices in that

building. The activities and inservice sessions take place in the individual schools.

The overall program makes many types of materials available to teachers. These include instructional units, films, filmstrips, records, magazines, and books. There are separate units on Asian, Chicano, and Afro-American cultures. The sex stereotyping materials which are made available to all teachers are as follows.

K-6 MATERIALS. A small booklet is prepared and distributed to all teachers which describes materials available in the program's resource library. These materials include activities that can be used for reading, social studies, language arts, handwriting, and mathematics. They can be used as a unit, or can be integrated into on-going lesson plans. One set of materials centers around short biographical sketches of Maria Tallchief, Barbara Jordan, Ruth Asawa, Romano Acosta Banuelos, and Margaret Mead. The K-3 carpentry unit entitled *The House that Jill and Jack Built* is also available. The implementation of this unit requires a small classroom to be arranged as a carpentry workshop. This room should be equipped with tables, benches, and shelves to hold supplies and student projects. A fairly extensive list of carpentry materials and tools is included in the unit. The unit uses five stories as the basis for classroom discussions. One film is also recommended but not required. These materials are described in the Activities section.

JUNIOR HIGH MATERIALS. Six Women's Studies units have been developed for integration into the eighth and ninth grade world and U.S. history curriculum. These units are entitled:

- *Native American Women in Pre-Columbian America*
- *Southern Women: 1820-1860*
- *Women in Struggle: Immigration and Labor 1920-1940*
- *Women under Feudalism: Western Europe and China*
- *Women and the Industrial Revolution*
- *Women in Change: Twentieth Century Women in Transition*

All of these units contain student materials and are accompanied by teacher guides.

SENIOR HIGH MATERIALS. At the senior high level materials have been assembled into a large loose-leaf binder entitled *We Were There!* These senior high activities are designed to be integrated into U.S. history courses. They stress the involvement and importance of women in U.S. history and emphasize the importance of the many different cultural groups.

SUPPLEMENTAL MATERIALS. Each month the coordinator of the program prepares a calendar which highlights past achievements of men and women of different ethnic groups. This calendar is sent to all teachers in the district.

ACTIVITIES

From kindergarten to grade 12, this program provides youngsters with curricula containing information on the contributions of the different cultures, ethnic groups, and women in America as a natural part of math, language arts, reading, and writing. The coordinator engages in three major categories of activity:

- assembling and developing materials related to equity for women and ethnic minorities and coordinating these materials into a unified whole
- providing inservice training workshops to all staff
- providing technical assistance to various schools, departments, and teachers as requested to help meet equity goals.

In describing her role, the coordinator reports that:

> A lot of my work has to do with consciousness raising of teachers and students. I use both existing and new curriculum materials, flyers, newsletters, calendars, inservice and teaching strategies. As staff work with materials and concepts, they will begin to integrate Multiculture, Multiethnic, and Women's Studies into everything they teach and this will lead to self-assessment and a real feeling for teaching an integrated curriculum.

Inservice sessions which are required of all staff, are provided by the coordinator and various consultants. Sessions are usually held for two hours after school for teachers of a given grade level. They are designed to (1) heighten staff awareness concerning the deleterious effects of sexism, racism, and ageism; (2) provide teachers with skills for identifying them in classroom practices and materials. Checklists are given to teachers to facilitate this assessment; (3) specific learning units, activities, and materials are introduced to the staff. Following the inservice sessions each school sets its own goals for integrating the concepts into the curriculum, and the program coordinator works with these schools individually.

At the primary level, the carpentry unit, *The House that Jill and Jack Built,* has been used in the past and is still available for implementation by individual teachers and schools. The sequence of activities in this unit is described below.

The House that Jill and Jack Built

The scheduling of these activities can be flexible, but they generally require two hours a week over a three-month period. There are essentially two types of activities: those which take place in the workshop with carpentry tools, and those which are integrated into the regular classroom curriculum.

WORKSHOP ACTIVITIES. The first activities in the program are designed to give students an opportunity to use hand tools safely and with ease. There are specific lessons for:

- Sawing
- Hammering
- Drilling
- How to "order" materials
- How to nail two pieces of wood together
- Measuring wood
- Putting on wheels

The carpentry instructor introduces a tool and shows how it is used. This is followed by individual practice by students, where one-to-one assistance is provided if required. There are frequent reviews of tools mastered in the past and also of safety procedures.

Once students have a basic mastery of the tools and procedures, they begin working on individual projects such as bird feeders, cars, boats, doll furniture, airplanes, and hinged boxes. When individual projects are being worked on, the directed lessons and discussions deal with anticipating and solving problems such as how to get materials needed, how to assemble two pieces of wood, and the best sequencing of steps for making a project. The workshop instructor allows students to try out various approaches so that they can see which produce the best results.

CURRICULUM ACTIVITIES. Although the carpentry skills are considered important, they are essentially a vehicle for teaching broader equity concepts. The curriculum activities stress that girls and boys are equally competent in using tools, and are designed to expand the aspirations of all students. There are seven specific lesson plans. They are:

Lesson 1: Making a Carpenter's Apron

All students cut arm and head holes in a pillow case and sew on a large colorful pocket. These aprons are then worn in the carpentry workshop.

Lesson 2: Tools I Can Use Journal

Students make booklets in which they describe the tools they have learned to use.

Lesson 3: Class Scrapbook

Students draw pictures of themselves using tools and share their drawings with the class. The pictures are assembled into a class scrapbook.

Lesson 4: Things I Can Make with Tools

Students fold a large piece of paper into four sections and number each section. They are asked to think of one thing they made in carpentry workshop that they felt good about. In the first section of their

paper they draw the tools necessary to make the product. In the second section they write the sizes of pieces of wood they need. In sections 3 and 4 they draw pictures of the first two steps in making the product. On the back they draw a picture of the finished product.

Lesson 5: What Do Girls Make with Tools? What Do Boys Make?

This lesson starts with a note to the teachers stating that project developers have noted that boys and girls tend to make different things in the carpentry workshop. This lesson examines why this is so. The teacher lists the categories of projects on the blackboard and then tallies the number of boys, girls, and the total making each object. The discussion then focuses on: Which things do girls/boys make? Why? Is there a difference between the things boys and girls make? What is the difference?

Lesson 6: The Fable of He and She

The lesson is based on a film by the same title available from Learning Corporation of American for rental or purchase. It has been adapted and is available in story form in the program materials. The story deals with the development and limitations of sex role stereotyping. It then presents males and females sharing skills and working together. There are follow-up discussions, creative dramatics, and written activity suggestions.

Lesson 7: Here's How

This activity involves pairs of boys and girls showing each other how to make the products they described in Lesson 4.

Five stories are also used in the program. They are:

- *What Can She Be? An Architect,* by Gloria and Esther Goldrich. Lothrup What Can She Be Series, 1974.
- *What It's Like to be a TV Producer,* by Arthur Shay Reiley & Lee Brooke, Chicago, 1973.
- *Three Strong Women,* by Slaus Stamm. The Viking Press, New York, 1962 (paperback).

  or
- *Womenfolk and Fairy Tales,* Rosemary Minard, editor. Houghton Mifflin Company, Boston, 1975, pp. 93-105.
- *Yolanda's Hike,* Thomas Rodriquez Gaspar. New Sud Press, 1974.
- *Go Hush the Baby,* Betsy Byars. Viking Press, New York, 1973.

The first two stories introduce women at work, one an architect, the other a TV producer. The third story, a humorous tale of female wrestlers, shows that female strength is not to be taken lightly. The fourth story presents a girl who leads her friends on an adventurous hike. And the last story, about

a boy who takes care of his baby brother, presents one way of preparing boys for the job of caring for a family. Guided discussions and follow-up activities are provided in the materials for all the stories.

COSTS AND FUNDING SOURCE

For the overall program, approximately $6,000 is budgeted for consultants, printing, and materials. The salaries of the coordinator, secretary, and resource teacher are additional. In the past, Title I funds have been used for the resource teacher whose main responsibility has been to implement the cultural aspects of the program.

For the implementation of *The House that Jill and Jack Built,* approximately $1,000 was budgeted for lumber and hardware. This cost could be cut if donations of lumber were obtained. Approximately $325 was spent on tools and $280 on special primary work benches (long tables could suffice for the work benches). The salary of the half-time carpentry teacher, if one is required, should also be counted as an expense. Funding for the first implementation of *The House that Jill and Jack Built* was obtained from the Rosenberg Foundation.

PROGRAM EFFECTIVENESS

The effectiveness of the entire Multicultural/Multiethnic/Women's Studies program can be measured by the increased use of the materials and the positive, enthusiastic response of district staff. At the end of the school year the program coordinator determines which materials were used most frequently and which were judged to be most useful. This facilitates planning for the following year.

The specific unit on carpentry skills has also been warmly received by students and staff. At the beginning of the project boys generally demonstrated more confidence although both girls and boys appeared to be at the same skill levels. By the end of the project teachers reported that girls and boys attempted equally difficult projects. Students interviewed after the program reported that they felt comfortable using hand tools. Several girls as well as boys indicated that they were using hand tools at home or that they planned to borrow or buy tools so that they could continue carrying out projects.

SUGGESTIONS FOR REPLICATION

To implement a program of similar scope requires a district-wide effort. It requires a willingness to examine all curriculum areas for the presence of stereotyping and to make necessary changes. The followng suggestions may facilitate the successful replication of the overall program.

1. Areas in which the need to reduce stereotyping is greatest must be identified. Curriculum specialists or a committee of concerned teachers and parents can be assembled to examine existing texts and materials for

sexism and racism. The Berkeley program has developed a checklist for teachers to use in assessing practices and materials. Another useful publication in this regard is: *Help Wanted: Sexism in Career Education Materials. How to Detect It and How to Counteract its Effects in the Classroom.* It is available from Women on Words and Images, P.O. Box 2163, Princeton, New Jersey 08540. The texts and materials which are most stereotyped can then be considered for replacement, and recommendations can be given for materials which are free of stereotypes. It is not necessary, however, to do away with all texts which are stereotyped. The program coordinator in Berkeley suggests that teachers make use of the existing examples of stereotyping by pointing them out to the class and discussing the picture which is being presented. Counter examples can then be provided.

2. One key to the success of this program is the variety of options which are available. Teachers can adapt the materials to their own teaching styles and particular areas of expertise. For example, some teachers may be comfortable addressing equity concepts by using the carpentry unit while others may prefer to use creative dramatics activities. The variety of options facilitates the infusion of equity into all aspects of the curriculum.
3. While infusion of equity concepts in *all* aspects of the curriculum is sought, the Berkeley coordinator feels that it is best to start with a single area. The Berkeley program first worked on developing materials and activities which related to social studies. Materials in other areas were made available but the social studies component was stressed.
4. Since a program of this scope requires the commitment and enthusiasm of all staff, at all levels, inservice sessions for staff which make them aware of the problem and alert them to strategies and materials for dealing with it are important. These should be held once activities and materials are available and can be recommended for staff use.
5. In implementing a program such as this it is important to stress that males are also adversely affected by sex role stereotyping. In addition to pointing out the differences which exist between males and females, it is also important to focus on the many similarities.

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PROJECT HEAR

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Among the most pressing problems facing today's educators as they try to help students learn about careers is that of counteracting sex role biases related to occupations. Project HEAR (Human Educational Awareness Resources) is a set of three curriculum units for grades 4-12 designed to help teachers do just that. The materials are sequentially designed for any classroom structure and offer a multimedia, nongraded approach to help students understand themselves and the career choices open to them, minus the powerful hidden messages that "only men do these jobs; only women do those."

The three Learning Units are *Primary* (grades 4-6), *Intermediate* (7-9), and *Secondary* (10-12). The units are geared to students' different developmental levels and different learning styles. Project HEAR's materials are a blend of reading, writing, verbal, audio, visual, simulation gaming, and kinesthetic experiences. Activities are varied; students work individually and in large and small groups.

GOALS OF THE PROGRAM

The overall goal of the program is to change students' stereotyping of occupations by sex. It focuses on students' self-awareness, career awareness, and decision-making skills. The program materials are designed to help all students understand their interests and abilities and to make choices free of the sex role stereotyping that can limit their options.

TARGET POPULATION

The program is designed for students of both sexes and all abilities in grades 4 through 12. Cogent Associates of Princeton, New Jersey, developed and field tested the materials as a result of a growing awareness of women's issues. The program has been used with students in urban and suburban settings, of various ethnic backgrounds—primarily Blacks and Puerto Ricans—and lower to upper middle class socioeconomic levels.

STAFFING AND MANAGEMENT

The program materials require the services of only one teacher at each level. Within the activities the teacher has great discretion in expanding activities and involving other school staff such as counselors, and administrators, as speakers or information resources.

Each of the Learning Units can be implemented in about 35 class days, involving between 35-40 minutes per session. It is possible for teachers to share the unit materials and replace consumables for each new implementation.

FACILITIES AND EQUIPMENT

The units require no special physical facilities and no special equipment beyond that normally found in a school building or district.

MATERIALS AND ACTIVITIES

The essential elements of the program are the curricular units which contain several learning modes. These serve two related purposes: to help each student learn in the way that is best for her or him; and to reinforce the learning within the unit by presenting the same kind of information in several different ways.

Primary Learning Unit

Contained in the Primary Learning Unit (4-6) are the following:

- Thirty consumable individual Student Workbooks, "Whatcha Gonna Be?," designed to give students knowledge about themselves, the world of work, as well as decision-making skills.
- A Teacher's Manual designed to give teachers a rationale for the HEAR curriculum, the philosophy, the learning sequence, an explanation of each activity contained in the Student Workbooks, plus additional suggested activities and discussion topics.
- Thirty non-consumable, individual "Storybooks" containing two original fiction short stories, "Everybody Gets Scared Sometime," and "Dreams Sometimes Have to Wait." These stories are intended to portray men and women in realistic alternative roles; to expose students to a variety of occupations; and to promote discussion about feelings, emotions, and to affirm a positive self-image in children.
- A cartoon filmstrip and accompanying cassette, "What Can I Be?," intended to encourage students to view traditionally stereotyped occupational roles as suitable for both men and women.
- A set of 30 slides, "Images," to be used in conjunction with those sections of the Student Workbook concerned with self-exploration and the exploration of the world of work. The slides include pictures of individuals from various racial/ethnic minority groups.

The activities included in the primary unit are divided into three sections: All About Me, All About Work, and All About Deciding. The following are a few examples of the many activities contained in each of these sections.

ALL ABOUT ME. The activity called "People Slide Show" uses 15 slides showing human faces displaying different emotions. Through questions and discussions, children are encouraged to explore and accept the wide range of feelings which all people can feel and exhibit. Students answer questions in their workbooks concerning the faces: the teacher can choose to have responses delivered verbally, in writing, or both. Ideas for individual or small group activities and discussions are also provided including the topic of differences between boys and girls in showing feelings. In "The Trading Post" activity, students are instructed to think of ways they would like to be different from the way they are. They then fill out order blanks listing traits they would like to have and traits they are willing to exchange for new ones. Questions for discussion focus on differences in patterns which boys and girls might have exhibited and why these might be.

ALL ABOUT WORK. Students begin this section with a study of the meaning of work, play, and leisure activity including a discussion of different jobs. Another activity is a filmstrip with cassette recording entitled "What Can I Be?" which focuses on sex roles in occupations. Discussion questions follow the film which encourage students to explore occupational roles and to give reasons for their opinions.

ALL ABOUT DECIDING. The final section begins with a short story showing all the decisions one student makes in a day. The class discussion following this centers on values and the part they play in decisions. "Four Corners" is a game in which students must quickly choose between four attractive options and gather in the corner of the room designated for their option. They are then asked to list with the group all the reasons why they chose that option. The lists are then shared with the whole class. The purpose is to focus on decisions and how they arise from values.

Intermediate Learning Unit

The following are contained in the Intermediate Learning Unit (7-9):

- Thirty consumable individual Student Workbooks, "Whatcha Gonna Do?," designed to give students knowledge about self, the world of work, and decision-making skills.
- A Teacher's Manual to serve the same purposes outlined for the Primary Learning Unit.
- Thirty non-consumable individual storybooks, "A Couple of Compendious Vignettes or Two Short Stories." Two original fiction short stories, "What Do You Do At the Hospital, Mom?" and "The Missing Link," are contained in the storybook. These stories are used in conjunction with the Student Workbook section of the world of work. They focus on the occupational fields of Health and Government and on 18 occupations within those fields which are projected to expand over the next ten years. Special care has been taken to ensure the nonstereotypic portrayal of the characters.

- "Images" is included in this unit with an additional 18 slides picturing 18 persons in occupations nontraditional for their sex.
- An instruction simulation card game, "HEAR's Careers," designed to give students information about the education and/or training requirements for a selected set of careers, and the differences and relative degrees of difficulty for males and females in achieving those careers. Career Record Sheets are included with the game.
- Thirty non-consumable individual legal rights brochures entitled "A Guide for Women: The Law and Employment," designed to acquaint young women with their rights and responsibilities in the world of work.

The activities included in this unit are divided into three sections: Looking At Myself, Looking At the World of Work, and Deciding. The main emphasis is on the world of work. The following are a few examples of the many activities contained in each of these sections.

LOOKING AT MYSELF. The first activity of this unit is a short fantasy tale about the self and what happens if it gets lost. The story raises the question: "Why study yourself, anyway?" As an introduction to this section of the unit "What's In a Name?" is a game where students examine their feelings about their own names. Then they give others in their group new names and talk about why they chose the names they did.

LOOKING AT THE WORLD OF WORK. This section also opens with a short story which deals with the interrelatedness of work in the modern world. The activity begins with "Work-Related Values." Students are asked to rate 15 work characteristics as very important, important, not important to them. Then they compare work values which are contradictory (such as cooperation and solitude). Finally they list work values they would associate with 11 different careers. "Fantasy Career" is an activity which helps students identify the specifics of a career they might like to enter, such as required training, working hours, and associated values. Suggestions are given for small and large group discussions.

DECIDING. This section on decision making begins with two very short stories on decisions. The first was made by President Harry Truman to drop the first atomic bomb; the second, by Rosa Parks in Montgomery, Alabama, *not* to move to the back of the bus. Questions help students identify the values and options associated with the decisions. This "Values and Decisions" exercise is followed by one on "Values and Choices." Students identify some of their own recent decisions and discuss their options and reasons for choices.

The activity "Operation Target" presents students with the task of ranking 15 items in importance, both individually and as a group exercise. The intent of the exercise is to examine differences in decison making alone and in groups, and suggested discussion questions focus on this topic.

Secondary Learning Unit

Contained in the Secondary Learning Unit are the following:

- Thirty consumable individual student workbooks, "Working It Out," designed in a self-teaching response-reinforcement format. Students move from an exploration of self awareness, into an exploration of social awareness, concluding with experience in decision making.
- A Teacher's Manual to serve the same purpose as outlined for the Primary Learning Unit.
- A cartoon filmstrip and accompanying cassette, "The Dreamer," designed to acquaint students with the concept that any decision relating to occupational choice should be directly related to knowledge about self.
- A manual card-sort, "Occupational Resource Card System," containing 850 occupations derived from the 10 occupational classifications of the *Dictionary of Occupational Titles*. Each occupation is coded according to 18 variables of occupational characteristics. In the process of using the system, the student acquires both the specific occupational information and practice in establishing priorities among job related variables.
- Thirty non-consumable individual legal rights brochures, "A Guide For Women: The Law and Employment," designed to acquaint young women with their rights and responsibilities in the world of work.

The activities included in this unit are divided into three sections: Self Awareness, Social Awareness, and Decision Making. The following are a few examples of activities contained in each of these sections.

SELF AWARENESS. This section is built around the concepts of interests, aptitudes, and achievements. It begins with a brief questionnaire on "Where Are You Now?" in those areas. Then it introduces the Occupational Resource Information System which is part of the unit. This hand-sort system contains 850 cards, each representing a different occupation coded according to characteristics given in the *Dictionary of Occupational Titles (DOT)*. Each card contains 18 descriptors of occupational characteristics, hole-punched according to the occupation. By placing a sorting needle through the holes for the description of interest, the student can sort out those occupations which possess desired characteristics. The unit presents the students with two exercises in using this system: selecting and prioritizing desired occupational characteristics. Because the 850 occupations are a cross section of all occupations described in the DOT, the student is able to transfer learning to all available job options.

SOCIAL AWARENESS. This section begins with a pair of questionnaires briefly describing several people and asking students to characterize each person along given dimensions. The questionnaires are identical, except

that one set of people is female and the other male. The purpose of the exercise is to explore social attitudes among the students concerning males and females, and particularly to see if the patterns of reactions differ between boys and girls.

Two very short stories follow, "The Anonymous Musician" and "Noreen's Story." Questions following these stories help students examine the effects of discrimination and stereotyping on minorities and women, and form the basis for further discussion.

DECISION MAKING. This section opens with a parable on decision making entitled "The Adventurous Ant." In analyzing the ant's experience, students identify the decision, the reason, and the true situation as known to the reader. Another activity presents "Some Steps in Decision Making," specifying five steps and applying them back to the story of the ant. Teachers are encouraged to expand the activity for class discussion into examples which are relevant for their own students.

PROGRAM COSTS

The costs for the Learning Units are $75 for the primary and $71 for the intermediate. The secondary unit costs $95. Each unit includes material for the teacher and for 30 students. Shipping is charged at cost and there is a five percent handling charge.

PROGRAM EFFECTIVENESS

The Joint Dissemination Review Panel of the United States Office of Education approved Project HEAR in May 1978. Project HEAR's three Learning Units were Nationally validated as successful, cost-effective, and exportable. The following claims of effectiveness were made in the evaluation of Project HEAR:

For primary students, the program is effective in:

- changing perceptions of sex-linked occupational stereotypes so that more occupations are perceived as gender free, and
- changing attitudes toward occupations so that respondents express preference for more occupations in which the respondent's sex is opposite to the gender typically associated with the occupation.

For intermediate level students, the program is effective in increasing knowledge of the world of work and for secondary level students the program has a significant effect in increasing the consistency of occupational preferences with the students' interests.

SUGGESTIONS FOR REPLICATION

These materials are designed to be adapted and used by other districts, and suggestions for replication have been incorporated into the material. Although the classroom activities are extensive and explicit, the developers

feel the program will be most successful when implemented by a competent, trained, sensitive staff. Thus an inservice training session before program implementation is recommended.

Inservice training is available from the Cogent Associates staff. The cost is determined on an individual basis and depends on the number of days and hours of training. The overall purpose of the training is to create an awareness in adopting districts of how gender limitations on career choices are manifest in virtually every aspect of life. Through the training, staff become familiar with (1) the overall program approach; (2) its relationship to career education; (3) how it can be infused into the curriculum; and (4) the specific materials and activities contained in the HEAR program. The training is also designed to help the participants make plans for implementing the materials. This includes scheduling the units, selecting among optional activities, estimating activity lengths, and other details the teachers may wish to discuss.

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PRACTICAL ARTS

Parkersburg, West Virginia

If girls felt as comfortable and as skilled at repairing a leaky faucet as at mending a shirt, and if boys were similarly adept at planning a meal as at replacing a window screen, both males and females would be more self-sufficient in and around the home. If they learn these skills together, their conceptions of what is appropriate "male" and "female" behavior are likely to be changed and their life-role options will be expanded. The Practical Arts Course at Van Devender Junior High in Parkersburg, West Virginia has been designed to provide these and similar skills to all eighth grade students. In so doing they are breaking down sex role stereotypes.

The program lasts for an 18 week school semester. Half of the time is devoted to industrial arts and half to home economics. The classes are taught coeducationally by one shop and one home economics teacher. All students are scheduled into the class during the first or second semester of their eighth grade year.

GOALS OF THE PROGRAM

The central purpose of the Practical Arts Course is to help students become more self-sufficient in and around the home. It is a coeducational course in which students are taught skills in home economics and shop. The home economics units include: child care and baby sitting, sewing, laundry, domestic care, and nutrition and cooking. Shop skills taught include: home safety, electricity and plumbing, general home repairs, and small hand and power tool usage.

TARGET POPULATION

The program is designed for junior high boys and girls and is appropriate for all cultural and socieoconomic backgrounds.

BACKGROUND AND DEVELOPMENT

In the past, all 8th grade boys took a semester of industrial arts and all 8th grade girls took a semester of homemaking. Now students split their time equally between them. This Practical Arts course is required for all 8th graders and is graded on a pass-fail basis.

The industrial arts and home economics teachers had to restructure their courses so that they could work with a nine-week time frame rather than the full 18-week semester. Other than this, very little was required to implement the program.

STAFF AND MANAGEMENT

The program requires the service of one shop and one home economics teacher. Staff from the industrial arts and home economics departments who teach the course must be committed to the idea that the content of their subject matter area is appropriate for both boys and girls. They must be patient since many students will not have had prior experience with some of the skill areas. However, they must realize that the prior lack of experience can easily be corrected.

FACILITIES AND MATERIALS

No additional facilities or staff are required. A few more materials may be required since both males and females are taking each part of the course, but this is offset by a cut in the duration of each part.

Course materials involve various handouts which are used for discussion purposes or which outline various activities. The shop portion of the course makes use of two reference books:

Vocational Curriculum Laboratory
Safety and You on the Job
Cedar Lakes Conference Center
Ripley, West Virginia 25271

Schaefer, Carl J.
Home Maintenance and Repair
Bruce Publishers.

Hands-on class projects are frequently assigned and completed in class. A few paper and pencil tests are given to check acquisition of basic concepts.

ACTIVITIES

There are five basic units in the home economics portion of the course. Those units, and a brief discussion of the skills taught within each are listed below.

Child Care and Babysitting

Baby care
Child development stages
Parenting
Toys and safety
Babysitting responsibilities and finding jobs
Books and games for children.

In this unit the students examine the roles of various family members, the roles their own parents play, and the concept of nuclear and extended families. They learn basic child care, particularly focusing on the first year of life and learn about health requirements of expectant and new mothers. The role of a babysitter is also discussed.

Specific activities include:

- *Return to Childhood Day.* Students have a "show and tell" period and participate in finger painting, storytime, and other childhood activities for themselves.
- *Child Observation.* Students observe a child between the ages of one and six. Students are given a worksheet which asks them to observe various aspects of the child's behavior.
- *Toy Construction.* Each student makes a toy for a child in one class period using materials found at home such as socks, bags, milk cartons, etc. They then judge each other's toys on color, attractiveness, suitability for age, and safety.

Sewing

Hand sewing: buttons, snaps, hooks and eyes, mending
Machine sewing: knowledge of the parts and operation of the machine

Students learn about purchasing sewing materials and how to work with them. The major project is constructing a barbecue, shop, or kitchen apron.

Laundry

Run washer and dryer
Sort clothes
Treat stains
Iron

One activity in this unit has the students work in groups of three to prepare and act out a commercial for a product which is useful to doing laundry.

Domestic Care

General cleaning and home care
Making beds
Proper storage
Wise buying

Most of this unit is integrated into other units throughout the course. Particular attention is paid to safety hazards in and around the house.

Nutrition/Cooking

Basic nutrition and food preparation
Care and use of appliances including range, refrigerator, dishwasher, disposal, and microwave ovens

During this unit students work in groups to prepare muffins, breakfast foods, and lunch snacks. Students are required to do a complete clean-up after the food preparation.

During the nine weeks of the Practical Arts Course which are devoted to the area of shop, students devote four weeks to learning home maintenance skills, and five weeks applying these skills in a lab project. After students have completed an experience in any area, they fill out a self-evaluation sheet and write a short summary of the activity. The basic areas which are covered and skills which are taught are described below.

Home Safety. Students learn to locate the cutoffs in their homes for gas, electricity, and water. Fire exits are also discussed.

Electricity. Approximately one week is devoted to electricity. Five activities are undertaken:

1. Cords—Make up extension cords; demonstration and hands-on practice
2. Switches—Replace switches in work panel and check out
3. Outlets—Replace outlets in work panel and check out
4. Breaker box—Pull and inspect breakers; check out system
5. Make wire splice—West Union, Pigtail, and branch splices

Plumbing. The major topics and activities in plumbing are:

1. Repairing faucets
2. Soldering
3. Opening clogged drains
4. What to do with frozen pipes
5. What to do with noisy pipes

General Home Repairs. The students learn about:

1. Basic floor maintenance and repair
2. Replacing broken windows, screens, tiles, and carpets
3. Repairing plaster and drywall
4. Hanging blinds, curtain rods, and pictures
5. Furniture repair and refinishing
6. Outdoor maintenance
7. Winterizing the home

Tools

Hand tools: hammer, pliers, screwdriver, planes, wood chisel, files, saws, hand drill

Power tools: power hand drill, saber saw, sander, and drill press

Students then begin work on their shop projects in which they make something from wood that requires the use of a number of hand tools that are likely to be found in the home. They carry out this project in full detail, from initial plans to the final coat of finish.

SCHEDULE

The programs last for an 18-week school semester. The class meets five days a week for approximately one hour. Nine weeks of the course are devoted to home economics and nine weeks to industrial arts. During the nine weeks devoted to the area of shop, students devote four weeks to learning home maintenance skills, and five weeks applying these skills in a lab project. Approximately a quarter of the class time is devoted to lecture and demonstration, and three quarters to hands-on activities.

PROGRAM EFFECTIVENESS

Student and staff response to the project has been outstanding. In addition to teaching practical skills the course provides both boys and girls with the same background from which to choose either shop or home economics as a ninth grade elective. The program has been such a success that school administrators plan to expand the course to a full year with one semester devoted to shop and one to home economics.

SUGGESTIONS FOR REPLICATION

The following are suggestions which should contribute to the successful replication of this program in other settings.

- *Involve All Students.* A program such as this may encounter some initial resistance because it requires males and females to engage in activities which are nontraditional for their sex. In order to avoid embarassment and diminish resistance it is best to have such a program required of all students in a certain grade. Everyone is then "on the same boat" and there is no cause to poke fun at any particular student.
- *The course must be taught coeducationally.* A major objective of the course is to break down sex role stereotypes. An important way in which this can be done is to have students observe their peers performing nontraditional tasks. Undoubtedly some of the girls will be better at some traditionally male tasks than some of the boys and vice versa. Therefore it allows students to observe that skills are based on individual rather than sex differences.
- *Staff commitment to sex equity.* The instructional staff must be committed to equity and to the value of both men and women being self-sufficient around the home. A nonpatronizing attitude on the part of home economics teachers toward males and shop teachers toward females will create an unbiased atmosphere in the classroom. In order to obtain this staff commitment, staff development activities or sessions may be required.

- *Pass-fail grading.* The pass-fail grading system which was adopted at Van Devender Junior High School reduces competitiveness among the students and allows them to feel freer about trying new skills It also eliminates any advantage which students of a single sex might have because of earlier socialization.

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CAREER INTERNSHIP PROGRAM

West Nyack, New York

Classroom career guidance is not enough. Students need first-hand experience, exposure and a practical understanding of the job opportunities and alternatives available to them in today's world of work. The Rockland County Career Internship Program has been designed to meet these needs. The program provides 8th, 11th and 12th grade students, called "interns," with "on the job experience" and also works to reduce the effects of sex role stereotyping by encouraging students to explore nontraditional careers. The program supplements the regular school program and is structured to last for one semester. Eleventh and 12th graders work on a one-to-one basis with a community volunteer or "mentor," while 8th graders work either in groups or on a one-to-one basis with their mentors.

GOALS OF THE PROGRAM

The major purpose of the program is to help students explore a career of interest to them, through a one-to-one relationship with a community professional or tradesperson. It provides students with a greater awareness of career options, information on the preparation needed to reach career goals, and an opportunity to practice career decision making skills.

Through the program students:

- Meet competent professionals involved in career areas related to the student's interests.
- Obtain information on skills required for all types of work; including interviewing, compatibility with others, reliability, and good grooming.
- Learn about career options available to them after high school and how to choose and develop these options.

TARGET POPULATION

The program is designed for both male and female students in the 8th, 11th, and 12th grades but would be appropriate for students at both middle school and secondary levels.

BACKGROUND AND DEVELOPMENT

The program was developed by the Rockland County New York Board of Cooperative Educational Services. It is now in its fifth year of operation and has grown from serving 45 students to more than 150. Approximately 25 career fields are explored by the students each year. The need for the program stemmed from the observation that students need first-hand ex-

perience to help build confidence and gain a better understanding of their career goals. The developers felt that the program could strengthen community-school linkages and improve the image of the students and the school in the community. It also allows parents to see their adolescents developing a more positive attitude toward the world of work.

STAFFING AND MANAGEMENT

The program is structured around four key people: the *student,* an intern volunteer, who has demonstrated interest in observing and participating in a meaningful career experience; the *mentor,* an accomplished person from the community who has attained his/her career goal and is willing to share knowledge and career experience with a student; the *guidance counselor,* a specialist who will identify student interns and hold regular group follow-up sessions to evaluate the students' progress; and the *coordinator,* a community resource specialist who acts as liaison between mentors, students, and guidance counselors, and who monitors the entire program. The coordinator has overall responsibility for recruitment and placement of students and community mentors. Students are encouraged to consider nontraditional career options. Whenever possible, the coordinator attempts to place interns in areas which are nontraditional for their sex; for example, Occupational Therapy for a male, or Law Enforcement, Boat Mechanics, and Architecture for a female. Mentors who are working in careers that are nontraditional for their sex are also sought by the program coordinator. Female physicians, attorneys, and police officers have served as mentors and have worked with both male and female students.

ACTIVITIES

The program is open to all interested students. Interested students consult their school guidance counselor about entrance into the program. Counselors then assist the students with application and pre-evaluation forms. The application forms request information on previous work and volunteer experiences, nature of such work or duties, special interests, and counselor comments. It also includes a parent permission form.

After the student is accepted into the program as an intern, he or she attends an orientation session on opportunities in the program and concomitant responsibilities. Specifically, the orientation includes: (1) a review of the program objectives; (2) a role playing situation of the first meeting between the student intern and his or her mentor; (3) a review of how to keep a log of work time and activities; and (4) a preliminary visit to an "on the job" site. The students are responsible for their own transportation. This program takes place outside of school hours and lasts for one semester.

Each student then meets with the internship coordinator to discuss interest, schedules, and special needs. The coordinator and student discuss the types of experiences the intern wants and could expect and a placement

is made. The following activities are then completed by the intern:

- Research career interest prior to the initial meeting with the mentor in order to have some fundamental knowledge of the career to be explored.
- Write job descriptions in a minimum of two paragraphs, to include five major functions and responsibilities of the job.
- Identify educational requirements for the position.
- Identify at least three institutions where this preparation can be obtained.
- Identify the time required to reach the goal of employment in the career area.
- Provide an accurate range of salaries which can be expected in the career area.
- Describe personal wants and needs relative to a projected life-style.
- Contrast the above life-style related to the selected career area.
- Identify five additional careers related to the one explored.

Resource books such as the *Concise Handbook of Occupations*, the *Dictionary of Occupational Titles*, and the *Occupational Outlook Handbook* are made available to students by project staff in the school guidance office.

A meeting is then set involving the mentor, student, and program coordinator. However, before the student-mentor pairing, the mentor receives a *Mentor's Handbook* which has been designed to introduce the program and to answer some of the questions that might arise during the semester. Mentors are asked to provide an atmosphere revealing the realities of their career; the responsibilities, skills, life-style, expectations, and the people associated with their career.

At this meeting, the intern, mentor, and program coordinator draw up a learning contract or agreement of common purpose and arrange a convenient time schedule. For example, the contract might list some of the following specific objectives if the internship were in Boat Mechanics:

- learn as much as possible about repair and rebuilding of motors
- learn about a tune-up
- list several ignition systems and be able to describe one
- list and describe coils.

The amount of time students work with the mentor varies by grade levels: 12th graders spend three hours a week for a semester total of 60 hours while 8th graders spend a total of 15 to 20 hours a semester. A written log of experiences, impressions, and feelings about the internship are kept by the student. Once every two weeks, interns meet with their guidance counselor and fellow interns to share experiences.

When the students complete the 60 hours, a log, and have attended the bimonthly seminars, they are eligible for one-half unit credit. The 8th

graders' program differs slightly in that they receive no credit, are interns for 15 to 20 rather than 60 hours, and may work in groups rather than individually with their mentors.

PROGRAM EFFECTIVENESS

Once the internship is completed, the students file an evaluation of their internships. This evaluation is a questionnaire designed to find out what students think about the program and what they learned by participating in the program. These evaluations have indicated that following the program, students indicated that they have specific career goals, and approximately 80% of the students intended to prepare for the field in which they interned. In addition, mentors, parents, and guidance counselors evaluate both the program and the intern. The evaluation is important not only as a measure of the intern's progress, but also as an indication of the program's effectiveness. Approximately 65% of the mentors have volunteered to keep their involvement in the program. The program has also been validated by the New York State Education Department under ESEA Title IV-C and is a Demonstration Project.

The Career Internship Program worked so well in the local community that the developers have expanded it to include a "Careers In Government" segment that is conducted through the state Lieutenant Governor's office in Albany, New York. The Careers in Government interns explore a variety of government-related careers, both elective and appointive. Students spend a week in Albany interviewing state legislators, government employees, as well as visiting several government agencies. All those involved with both programs feel that school and community resources are being shared in creative and beneficial ways.

SUGGESTIONS FOR REPLICATION

The most essential ingredient for replicating this program is to establish a good working relationship with local employers and employees. A pool of dedicated mentors is required who will donate their time in order to help students develop and establish career goals. This will require considerable work on the part of program staff. Potential mentors must be identified, contacted, and oriented to the goals and activities of the program. One suggestion for identifying potential mentors might be to work through local service clubs. The mentors should also be given suggestions and guidance concerning the kinds of activities which are best to provide for students. These community liaison activities should be begun before student participants are recruited. Careful attention should also be given to the procedures which will be used for attracting students. If more students than mentors are likely to be identified, attention must be given to selection criteria or the possibility of pairing two students with a single mentor.

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VISITING WOMEN SCIENTISTS PROGRAM

Research Triangle Park, North Carolina

Where are all the women scientists? Some of the few that do exist are visiting junior high and high schools to encourage female students to consider science careers. These women are aware of the scarcity of women trained in science, engineering, and technology and have involved themselves in a Visiting Women Scientists Program in schools across the country. The program, conducted by the Research Triangle Institute (RTI) of North Carolina, involved one-day school visits by women scientists and RTI field representatives, who spoke to large and small group meetings of females in grades 9-12. The program provided role models, information on career preparation, encouragement to females interested in science-related careers; and it could easily be adapted to careers in other fields.

GOALS OF THE PROGRAM

The purpose of the program was to increase the participation of women in science and technology careers. The program focused on career awareness, academic preparation, and reinforcement of interest in science. Large group presentations were made to 9th and 10th grade females, and seminars were provided for small groups of 11th and 12th grade females who had already shown an interest in a science career. The major strategy for accomplishing the program's goals was to provide a woman scientist role model and information about careers in science for women.

TARGET POPULATION

The program was designed for female students in grades 9-12 who represent various socioeconomic and cultural backgrounds; it has been presented to students in urban, rural, and suburban settings.

BACKGROUND AND DEVELOPMENT

In 1978 the National Science Foundation supported the Research Triangle Institute in conducting a pilot Visiting Women Scientists Program to encourage high school females to pursue careers in science, including biological, physical, and social science, as well as mathematics and engineering. As part of the pilot program, 40 women scientists and specially trained RTI field representatives visited 110 high schools across the country. The pilot program was very well received by high school students and staff

and experimental evaluation results indicated that it was successful in encouraging females to seek further information about careers in science.

Because of the success of the pilot program, a similar program was conducted during the 1978-79 school year by the Research Triangle Institute. Visits were conducted in 12 North Carolina schools early in the program; and 128 schools in California, Pennsylvania, and Minnesota were visited January through May of 1979. Schools were located in urban, rural, and suburban settings with many of them having a large minority enrollment.

The need for the program stemmed from the increasing opportunities available in science, engineering, and technology, and the scarcity of women trained for those areas. The intent was to increase awareness of: (1) the number of women entering these fields; (2) the new attitudes and laws providing opportunities in these fields; and (3) the preparation needed to pursue these careers. The program stresses that females should definitely take electives in science and mathematics in order to have the option of entering these careers later.

STAFFING AND MANAGEMENT

The Visiting Women Scientists Program included a field representative from Research Triangle Institute who acted as a local liaison, arranging visit details with the school contact persons and ensuring that each woman scientist was sufficiently prepared for her visits. The field representative reduced the burden on participating schools and women scientists and worked to avoid logistical problems. During school visits the field representatives assisted in conducting many of the meetings, and they worked with the school contact person to resolve any problems that occurred.

Schools were asked to arrange at least one large group meeting for their 9th or 10th grade female students, and smaller group meetings for 11th and 12th grade students who had already shown an interest in a science career.

ACTIVITIES

Ninth and 10th grade females were a major target of the program since they could be made aware of science and engineering careers at a time when they could still redirect their high school program to include more mathematics and science. The general approach in the large group meetings was to provide students with an opportunity to meet a woman scientist and to show them examples of women in a variety of science careers.

The field representative presented in most meetings a prepared introduction which included the following points: (1) most women work; (2) without proper planning, women may stay in low-paying, unskilled jobs; (3) there are many opportunities for women in the sciences; and (4) while you do not need to be a genius to succeed in a science career, you do need to take the necessary prerequisites. This introduction included slides of women scientist from a number of science fields, life-styles, and ethnic backgrounds.

A descriptive pamphlet entitled "Careers in Science and Technology: More Women Needed" was distributed to each student and a brochure entitled "Thinking About a Career in Science and Technology" was made available to interested students in each small group meeting. A matching activity was also developed to be used in small groups as time permitted. Its purpose was to create awareness of the many different options available in science careers; it asks students to match job titles with tasks people might perform in science and technology careers.

As part of their presentations, the women scientists described aspects of their careers, providing demonstrations related to their jobs if possible. For example, a cross section of a cylinder head from an aircraft engine was used to describe research in fuel injectors. Slides or pictures showing women scientists on the job or enjoying their leisure moments in recreational activities were also used. In addition, women scientists talked about their education, training, and personal backgrounds. Many described how they happened to choose a scientific career, what problems are associated with combining science careers with their personal lives, and how they resolved those problems.

A meeting was conducted on the day of the visit in the majority of schools with interested staff, including the following: guidance counselors; science, mathematics, and social science teachers; school librarians; and other interested school or district personnel.

The major purposes of the meeting were: (1) to describe the purposes of the program; (2) to describe the types of meetings conducted and the information presented; (3) to acquaint staff with the resource packet and other reference materials; and (4) to encourage them to be sensitive to the purposes of the program and to reinforce the ideas after the visit.

Participating schools received resource packets of materials describing careers in various areas of science, mathemetics, social science, and engineering. In addition to descriptions of specific career opportunities, the packets included a list of related resource materials including films and games, a bibliography of career publications, and financial aid information.

PROGRAM COSTS

For the Visiting Women Scientists Program, women scientists were paid an honorarium and reimbursed for expenses. Also, a number of materials in addition to the resource packets were provided free of charge. Organizations, schools, or districts which are considering adapting this program would have to assume or seek funds to cover these costs.

PROGRAM EFFECTIVENESS

The Visiting Women Scientists Program was very well received by all participants. Nearly all women scientists and school contact persons expressed an interest in future participation, and a vast majority of the students rated

the program excellent or good. Field representatives were highly rated by women scientists and school contact persons, and the work done by the contact persons was much appreciated by the visitors.

SUGGESTIONS FOR REPLICATION

The program can easily be adapted to other settings and it presents a model which can also be adapted to other career fields.

A national Women Scientist Roster was developed for the use of schools, districts, and organizations interested in conducting similar programs. This roster includes approximately 1,300 women scientists who are interested in encouraging females to consider science careers. It includes women from the 50 states, Canada, Puerto Rico, and the District of Columbia. Represented are women from all areas of science and a variety of educational, employment, and ethnic background categories. It is available through the National Science Teachers' Association at 1742 Connecticut Avenue, N.W.; Washington, D.C. 20009.

Through the pilot and 1978-79 Visiting Women Scientists Programs, RTI gained considerable knowledge about planning and implementing school visits by women scientists for the purpose of encouraging female students to consider careers in science and technology. The Manual on Program Operations was designed to share this experience with others who may wish to design and conduct similar programs. The manual is available through the National Technical Information Service (NTIS) and the Educational Resources Information Center (ERIC). Also the final reports for both the pilot and the 1978-79 programs are available through NTIS and ERIC.

In order to replicate this program a few points should be noted. These are:

- The aim of the program is to encourage and reinforce career choices that are science related. For high school girls the most immediate action which should be encouraged or reinforced is the selection of science and mathematics courses. Thus the program might be most successful if it takes place at a time when curriculum decisions are being made for the following years. Most probably this argues for a spring implementation.
- In a similar vein, it is important to involve counselors and other school personnel who have immediate input into student course selections. They too can benefit from a heightened awareness of the opportunities which exist for women in science. This awareness may be useful as they advise female students concerning their course selections.
- This program might be used very successfully with 7th and 8th grade girls in addition to students in grades 9 through 12. Since career interests develop early, early exposure to the possibility of a career in science would be desirable.

- While the roster of women scientists has been prepared, it may not be necessary to consult it if you know of local female scientists who would be effective in contacting students. While the roster contains names of women interested in conducting similar programs, the women contained in it have not necessarily had prior experience in working with students.

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PROJECT BORN FREE
Minneapolis, Minnesota

Boys and girls are born free of the stereotypes about what they can do with their lives. As they grow, their attitudes about roles and career choices for females and males are affected by the many influences in their lives, including educators. Educators, parents, and students may not be aware of the ways in which career development is restricted on the basis of sex. In order to create educational environments that encourage students to explore freely and pursue the wide range of career and life-style options potentially available to them, there is a need to *B*uild *O*ptions, *R*eassess *N*orms, and *F*ree *R*oles through *E*ducational *E*quity.

BORN FREE was developed to meet these needs. The program has been designed as a training and development program for educators at all educational levels and for parents. It aims to reduce stereotyping in educational institutions and to teach participants constructive change agent skills. A large volume of print and videotape materials have been developed for use in training workshops. There are three packets in the complete set of program materials: an elementary level packet, a secondary level packet, and a post-secondary higher education packet. This description emphasizes the elementary and secondary packets.

GOALS OF THE PROGRAM

The primary goal of the program is to create sex fair educational environments that encourage students to explore a wide range of career options. The program aims to increase awareness of sex stereotypes in career development and to identify successful strategies to bring about change. Specifically, the secondary program is intended to help workshop participants:

1. gain an initial understanding of the facilitating and inhibiting effects which existing stereotypes and role expectations have on career choices;
2. increase awareness of how language and the media facilitate or inhibit career choices;
3. increase awareness of how parents and other family members facilitate or inhibit career choices;
4. increase awareness of how institutional structures and practices facilitate or inhibit career choices;
5. increase awareness of ways in which religions and philosophical values may facilitate or inhibit career choices; and
6. develop strategies for making constructive changes in participants' own institutions.

The elementary program goals are similar. The first goal at the elementary level is the same as the first secondary level goal. The remaining five goals are:

- Participants will increase awareness regarding the ways in which children are stereotyped in terms of career aspirations and awareness.
- Participants will identify the factors that affect sex role socialization of children.
- Participants will increase their awareness of the inhibiting/facilitating effects that their present attitudes and behaviors have upon existing stereotypes and role expectations of both males and females.
- (For parents) Participants will develop strategies for making constructive changes in home educational institutions.
- (For parents and educators) Participants will develop strategies for making constructive changes in their home educational institutions.

TARGET POPULATION

The materials are primarily aimed at educators, including teachers, counselors, and administrators. Developers of the materials indicate they can be used with parent groups and other adult groups in educational settings such as school nurses, speech therapists, and resource staff. Suggestions are provided in the BORN FREE materials for focusing the materials towards each of these groups. The program materials have been used with participants from a diversity of socioeconomic and cultural backgrounds. Limited field testing has been done with other populations such as business and industry groups, community organizations, and special needs groups including battered women, re-entry women, and men's awareness groups.

BACKGROUND AND DEVELOPMENT

In order for educational systems to be supportive of expanding student options based on individual needs and talents, educators and parents need to be more aware of the ways in which they consciously and unconsciously *inhibit* and/or *facilitate* career decisons. BORN FREE was created to provide this awareness. It was developed with funds from the Women's Educational Equity Act, U.S. Office of Education. Fourteen schools and colleges participated with University of Minnesota staff, primarily graduate students in Counseling and Student Personnel Psychology, to develop the program. The materials were field tested at a local BORN FREE summer institute at the University, following which participants implemented the activities in their respective schools. The University staff then revised the field tested training materials and developed additional videotapes and video viewers' guides. Further field testing occurred at a national BORN FREE summer institute attended by educational leaders from 47 states and Puerto Rico. These

women and men were trained to use the materials in their own institutions and become resource persons and trainers in their home states.

STAFFING AND MANAGEMENT

The materials are designed primarily for use in staff development sessions. The developers feel that leadership teams composed of females and males have proven to be most effective in implementing the BORN FREE workshops. This reinforces the idea that the program is concerned about career options for both females and males. The training packets contain descriptions of many activities. Each description lists the goal, objectives, and instructions for the activity. Sufficient activities are contained in the materials for a series of workshops throughout a school year or they can be compressed into shorter, more intensive workshop sessions. Guidelines and suggestions for workshop leaders are provided in the materials. The materials are designed to stand alone but they assume some knowledge of counseling, career development, sex role socialization, and change processes on the part of workshop leaders. Developers feel that the workshops are most effective if used by leaders who themselves have completed the training. A follow-up survey of both local and national trainees has revealed considerable adaptation of the materials in other than staff development settings, e.g., student clinics, classroom activities, and "Growing Up Female (Male) Days."

MATERIALS AND ACTIVITIES

The core program consists of training packets, a set of nine half-hour color videotapes, video viewers' guide, and a review of literature on "career socialization" at each of the three developmental levels. Supplementary materials include seven technical reports evaluating the products and processes by which change was initiated and implemented in the participating institutions.

Print Training Materials

The training packets, combined with the videotapes, form the core of the program training materials. The packets consist of (1) an introductory section with guidelines for users, (2) a set of experiential and cognitive learning strategies designed to help educators and parents change their attitudes and behaviors to expand career options for both women and men. (3) reprints of numerous articles and handouts used in the strategies, (4) a specially compiled Fact Pack with statistics on the status of women and men in the labor force, and, (5) an extensive set of references. There is also a review of literature which documents the nature of the problem at each level.

Each packet of materials emphasizes the goals specified earlier and specific objectives and learning strategies are indicated for each goal. The

time required for each learning strategy, the resources needed, and outcome criteria are indicated in the materials. The learning strategies include small group discussions, reporting, role playing, brainstorming, summarizing, and journal writing. A coding system indicates whether activities are more appropriate for parents, educators, or both. Other codes indicate the necessary degree of participant understanding related to career development concepts and awareness of sex role issues. Workshop leaders may select from among the presented activities to structure the workshops.

Examples of suggested workshop activities include the following:

- "Early Sex Role Messages" has participants respond to the following open-ended statements:
  1. Growing up as a female, I learned that I should . . . .
  2. Growing up as a male, I learned that I should . . . .
  3. As a female, my daughter has learned that she should . . . .
  4. As a male, my son has learned that he should . . . .

Participants then discuss their answers in small groups.

- "Emerging Career Patterns" has participants examine the following career patterns: traditional family, volunteer career, dual career, single career, single parent, single adoptive parent, married non-parents, equal partnership, shared position, shared career, role reversal pattern, non-work pattern, alternative economic lifestyle.
- "Looking at Change" has participants look at recent changes in their home institutions and examine internal and external forces which affected or contributed to the change.

Videotape Training Materials

The nine half-hour color videotapes and viewers' guides are an integral part of the training material. The tapes are built around developmental themes of career socialization drawn from the literature reviews. The tapes consist of interviews and vignettes with students, parents, staff, and a wide variety of individuals representing many different life-styles and careers. The videotapes can be used along with the training packets to expand the audience's awareness of career inhibitors and facilitators.

The videotape viewers' guide, designed for workshop leaders, consists of a general introductory section on the purpose of the tapes and how the materials can be integrated into training workshops. Brief information is provided on career development, sex role socialization, and the change process, as well as on the development, rationale, and format of the tapes. A section on guidelines for showing the tapes reviews aspects of group process and provides suggestions for leading discussions.

Supplementary Training Materials

The technical reports completed as part of the project contain valuable information and aids for workshop planners. The product evaluation reports

indicate what learning strategies and videotypes have been used with what kinds of groups and with what degree of success. Hence, they are extremely useful in selecting strategies and tapes for inclusion in training workshops. The three reports which deal with evaluation of change process and project impact in BORN FREE institutions provide case summaries of change and an analysis of factors which appeared to be important in bringing about change in the area of career-related sex role stereotyping. All of these are available through the Educational Resources Information Center (ERIC) system.

Special Features

BORN FREE uses a three-pronged approach to integrating career development, sex role stereotyping, and change process. It provides a theoretical framework of career socialization, a process framework of teaching change agent skills, and an evaluation framework for initiating and supplementing change in BORN FREE institutions. Additional unique characteristics include (1) the attempt to deal with the inhibitors and facilitators of student career options from elementary school through college and (2) the collaborative approach between a university and other educational institutions to a practical problem of wide social concern.

Some suggested educational users of the materials are: departmental office staffs; student activity advisors; residence hall counselors; academic advisors; counselors and student personnel workers; school resource and guidance staffs; parent workshops sponsored by PTA or at school-sponsored parent nights; administrator workshops; and school board workshops.

Although the learning packets were *not* developed with students as a target population, some of the learning strategies may be adapted for use in the classroom or with counseling groups. The elementary and secondary education packets both contain lists of practical resources in which student-oriented activities may be found. The training materials could also be adapted to other than a school setting. For example, community agencies, mental health centers, state department personnel, business and/or industrial personnel, and career general planning programs could adapt the materials for their use.

Although sex role stereotyping was the program's main focus, it included, where possible, references to other kinds of stereotyping that limit career decisions. Race, age, physical or mental handicap, marital status, socioeconomic class, and affectional/sexual preference are some of the stereotypes sometimes used to limit career options. It is intended that these materials can be adapted to combat these and other stereotypes which limit choices for men and women, girls and boys.

SCHEDULE

The learning strategies may be used individually, or in combination, to fulfill whatever objectives are deemed essential for the particular target

population. For a two-hour workshop, strategies designed to increase awareness of limits on career choices would be appropriate. Longer workshops might attempt to change behaviors and attitudes, and/or to create and implement change in participants' home institutions. If used as a complete package, each packet would require approximately 60 hours for completion. Program developers feel that the materials work best if used in one to three-day workshops and/or in five to ten week inservice courses for college credit and/or for personal growth.

PROGRAM EFFECTIVENESS

Evaluation of the project was the responsibility of two part-time graduate students and one half-time staff member. The impact of the summer workshops on the participants was assessed with questionnaires developed by the evaluators and administered before and after training. The evaluators also developed rating forms for the videotapes and learning strategies included in the training materials. The evaluation found BORN FREE to be an effective model for training educational personnel to reduce career-related sex role stereotyping. Participants made significant gains in knowledge and awareness of stereotyping and its impact on individuals. Gains in knowledge were made in career development, sex role stereotyping, staff development/inservice training, and strategies for educational improvement. Participants also developed skills for functioning as change agents in their own institutions. Workshop activities and videotapes were well-received and considered to be highly useful.

DISSEMINATION

The BORN FREE materials have been approved by a review panel and will be disseminated at cost by the Education Development Center in Newton, Massachusetts. The dissemination package consists of the three training packets including the literature review and the nine color videotapes and viewers' guides. Additional materials, including technical reports on change process in BORN FREE institutions, were also approved for inclusion in the ERIC system.

SUGGESTIONS FOR REPLICATION

The program is designed to be adapted to the different needs of the participants and to a variety of settings. Since the materials are designed to stand alone, suggestions for replication are indicated within the materials themselves. However, a few points should be noted for successful replication of the program. These are:

- A careful assessment must be made of the needs of the potential participants and the time available for the training sessions. It may even be desirable to conduct a formal needs assessment which will provide information on the level of awareness concerning stereotyping

and the desire to have strategies for combatting it. If awareness is low, the workshop can focus on heightening it. If high, workshop activities can focus more heavily on specific action strategies. The amount of time available will also help in the selection of activities. The training materials should then be thoroughly examined and the selection of activities made in light of the findings of the assessment.

- Pre-workshop planning and "advertising" is essential. If parents are to be involved, they must be made aware of the program and be oriented to its goals and objectives. The workshop must be scheduled at a time and location which is convenient. Similarly, educators must be given advance notice of when and where the workshops will take place. All arrangements concerning use of the physical facilities must be made well in advance.
- The program developers stress that they are concerned with stereotyping as it effects the career development of both males and females. Consequently they strongly recommend a training team which includes both males and females, and similarly male and female participants should be involved. Furthermore, for best results the leaders should have participated in the training sessions themselves.
- The change process materials documenting changes in BORN FREE institutions provide important supplementary information on change processes for program users.

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PROJECT ASPIRE

Livonia, Michigan

Do I expect girls to be more verbal and artistic than boys, or boys to be more mathematical and scientific than girls? Do I find myself encouraging more boys than girls to go to college? These are some of the many questions being asked and answered by teachers, counselors, and administrators during their participation in the program entitled "*A*wareness of *S*exual *P*rejudice *I*s the *R*esponsibility of *E*ducators." The program consists of 64 hours of workshop activities. They are designed to increase educators' awareness of sexual prejudice. The workshop creates an environment in which change can occur within the participants and in their interaction with others as a result of a new awareness of sexism. The workshop is conducted by a facilitator and limited to a maximum of 15 to 20 participants to increase interaction among the group members.

GOALS OF THE PROGRAM

The goal of the program is to increase educators' awareness of sexual prejudice. The program helps educators develop self-awareness, identify the effects of sex role stereotyping on students, develop procedures to assess biases in instructional and counseling practices and materials, and create methods to reduce sex role stereotyping in the school setting.

TARGET POPULATION

The program is designed for teachers, counselors, and administrators at elementary and secondary levels, and may also include parents and secondary school students.

BACKGROUND AND DEVELOPMENT

The program was developed by the Livonia Public Schools in Michigan and funded by the Women's Educational Equity Program, U.S. Office of Education. The need for the program stemmed from the observation that teachers, counselors, school curricula, and administrative policies affect the development of sex role identification and stereotyping in youths. Because of the limiting effects of sex role stereotyping for both males and females, there was a need to increase educators' sensitivity to sexism in the school setting.

The program developers identified four areas which they felt should be addressed by an educational program designed to increase educators' awareness of sexual prejudice. These are:

- sex role socialization

- sexism in education
- evaluating instructional materials
- strategies for change.

The program was designed to help educators understand and overcome barriers in these areas.

STAFFING AND MANAGEMENT

The program requires the service of a workshop facilitator. Project ASPIRE was administrated by a full-time director, who also served as facilitator for the training group. It is the facilitator's function to model and create an atmosphere of warmth, trust, and acceptance with the group. Developers feel that because participants would be spending many hours together during the course of the training, and due to the potentially emotion arousing content of the subject matter, facilitators should encourage a climate of acceptance and trust among participants by using get-acquainted activities in the beginning of the workshop. A brief lecture and role playing session serves to establish rapport with participants.

MATERIALS AND ACTIVITIES

The materials consist of four training modules. These modules may be used independently or in sequence and include instructions for implementation of materials and activities. The content and focus for each module are as follows.

Module I is designed to increase the participants' understanding of sexism in this society and to encourage them to consider the personal effects that sex role stereotyping has had in their lives. The activities in this module reflect the belief that an intellectual understanding of sexism could be promoted by helping participants gain insight into the consequences that sexist socialization has had on their identities, careers, family roles, and other aspects of their life-styles. The activities help participants focus on their current sex role behaviors and attitudes regarding gender association. For example, group members respond to the following sentence stems:

"Since I am a (female/male), I must . . . ."
"If I were (female/male), I could . . . ."

Small group discussions follow that center on the freedoms and restrictions seen in sex roles. Articles and audiovisual materials are used to show ways in which language, media, and social institutions reinforce sex role stereotyping.

Module II concerns itself with the effects of sex role stereotyping on students' decision making processes and career aspirations. Structured activities and written materials assist group members in identifying instances of sex role stereotyping in counseling and classroom practices. Participants

analyze their interactions with students by completing a survey which asks the following questions:

- Do I ask girls to do housework or secretarial tasks and boys to do executive duties or heavy work?
- Do I ever make girls aware of their interest areas, even careers in which there are few women?

Information is presented concerning human growth and development of males and females, and statistical breakdowns of women's roles in the work force.

Module III emphasis shifts to the development of procedures to assess biases and sex role stereotyping that exist in instructional and counseling materials. Participants are exposed to several evaluative strategies and then produce their own criteria and techniques. Participants analyze materials used by students in their individual work settings.

Module IV involves participants in developing a process to reduce or eliminate sex role stereotyping within the school setting. The activities build on the awareness, motivation, and needs expressed by the group members in earlier sessions. To become more effective in the change process, group members have an opportunity to learn and practice skills related to empathic listening, assertive communication, conflict management, and goal setting. They are also provided with copies of TITLE IX of the Education Amendments of 1972 and other pertinent legislation. Participants then identify specific changes and change strategies that are applicable to their unique work environments.

SCHEDULE

The workshop consists of approximately 64 hours of group activities. These activities vary from 5 minutes to 3 hours. The required time is listed on each activity within each of the four modules.

PROGRAM EFFECTIVENESS

Preliminary evaluation data indicated that participants significantly improved their knowledge regarding sexism issues, and changed their attitudes to increase openness and acceptance. In an open-ended questionnaire, eighty-eight percent of the respondents stated they would recommend the program to others. Seventy-seven percent reported the training resulted in specific changes in their professional behavior with colleagues and students, and noted greater awareness of personally held sex role stereotypes. Eighty-one percent reported less stereotypic expectations for male and female students in terms of academic achievement and emotional behavior.

SUGGESTIONS FOR REPLICATION

The program can be adapted to an individual setting and particularly to the needs and characteristics of the individual participants. In order to replicate this program, a few points should be noted. These are:

- The number of participants meeting at any one time should be kept to no more than 20 so that group discussion will be easier. All participants must have a chance to share their feelings and experiences. Small groups facilitate this.
- Leaders must strive to develop a sense of camaraderie and trust among group members. Before the actual activities are begun some time should be spent allowing the group members to get acquainted and to practice sharing things about themselves with others in the group. This will make subsequent activities flow more smoothly.

Workshop activities often require participants to focus on their own stereotypic attitudes and behaviors. However, the needs of students must be stressed. The objective of the program is to eliminate the effects which stereotypic attitudes have on the career choices of students.

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EQUALS

Berkeley, California

Girls are as gifted as boys in math but somewhere along the line most young women develop negative attitudes about the subject. Consequently, they stop studying math as soon as it becomes optional in high school, limiting their educational and career options. Intervention in this pattern of math avoidance is the focus of EQUALS, a teacher education program developed by the Lawrence Hall of Science at the University of California, Berkeley. The program is designed for educators serving grades K through 12. Its main thrust is to create an awareness of this situation so that educators can then promote sex fair mathematics instruction and counseling. It also provides school personnel with specific activities to use with students.

GOALS OF THE PROGRAM

EQUALS works to increase the mathematical preparation of women students, thereby improving their opportunities for movement into predominately male fields of study and work. By offering inservice programs to educators, EQUALS provides the tools to promote the participation of women in mathematics and to encourage their entry into related occupations.

The strategies and materials presented in the program are designed to:

- Encourage young women to continue in mathematics courses throughout their schooling;
- Increase students' confidence and competence in doing mathematics;
- Relate the usefulness of mathematics to future career choices.

TARGET POPULATION

The program has been designed for classroom teachers, counselors, curriculum specialists, resource teachers, and administrators serving grades K through 12. The program has been used in urban and suburban classrooms serving a wide socioeconomic range of students.

BACKGROUND AND DEVELOPMENT

The EQUALS program is part of a larger effort at the Lawrence Hall of Science (LHS), University of California, Berkeley to promote the participation of girls and women in mathematics and science. The development and implementation of EQUALS was funded by the U.S. Office of Education, Title IV, and its expansion and dissemination by a grant from the Carnegie

Corporation of New York to the Math/Science Network. Other LHS programs developed for female students are: "Math for Girls" and "Computers for Girls." This description will focus on EQUALS, the teacher education program.

STAFFING AND MANAGEMENT

The program is staffed by a part-time director and five mathematics specialists. These individuals work with faculty members of schools and districts who wish to implement the program. The program provides inservice-training and "training the trainer" sessions during which program methods and materials are disseminated. The program can also be implemented in State Departments of Education.

FACILITIES

The original training sessions are conducted at the Lawrence Hall of Science, however, inservice training can be conducted within the school or district interested in adopting the program.

ACTIVITIES

The workshops are designed to provide participants with materials to improve student attitudes toward and skills in mathematics. The workshops also strive to increase awareness of the relevance of mathematics to a wide range of careers. The materials and activities focus on the following areas:

- Review and discussion of research on sex differences in math achievement and attitudes.
- Exploration of math-based fields of work and study, including seminars with women in science, engineering, and the trades.
- Participation in activities that promote improved student attitudes toward, and understanding of, mathematics.
- Development of problem solving skills that are keys to better mathematics learning.
- Implementation and dissemination of the activities and materials acquired from the training.

The EQUALS workshop model and support materials have been developed to accommodate a variety of mathematical backgrounds among participants and varying amounts of time available for the workshop. To facilitate classroom use, workshop activities are conducted in the same way in which participants will use them with their students.

EQUALS participants conduct research projects in their classrooms before attending the training sessions. They survey the math, science, and industrial arts courses in their high school to determine percent of female enrollments, or they ask their students to write an essay on the following topic: "Imagine you are 30 years old. Describe a typical Wednesday in

your life." The educators analyze their data and then combine their findings with those from other districts during the training. Follow-up research studies are suggested for future meetings. A large data base of student enrollment has been established, as well as findings indicating significant differences in male and female career aspirations.

As part of the workshop activities, participants learn a number of calculator activities and computer games that can be used in classrooms. Rationales are presented for using calculators in the classroom and presentations are made on how computers work and affect our daily lives. To familiarize participants with computers, one activity requires them to enter their telephone number into the calculator using only the zero, one, plus, and minus keys.

During the workshop, group members develop a set of student classroom activities called "Instant Investigations." These consist of a series of questions, listed on cards, that are posted in the classroom. They are designed to increase student awareness of the relationship of math and science to careers. Examples of Instant Investigation activities which have been developed by workshop participants are as follows:

Instant Investigation #1

Post on board: 3 assorted filters (possibilities include vacuum cleaner, coffee, car, and air filters)

List the following questions under the filters:

- What are these? Who uses them?
- What do these things do? How?
- Is the first letter of your last name a "filter?" How?
- Is a Venn Diagram a "filter?" How?
- Are the subjects you take in school "filters?"

This Instant Investigation is designed to make the point that mathematics acts as a critical filter for many careers; if women do not take mathematics courses, many career options are unavailable to them.

Instant Investigation #2

- Guess how much the starting wage for the following occupations is:
  a. elementary school teacher
  b. waitress
  c. domestic worker
  d. clerk
  e. nurse
  f. bookkeeper
  g. secretary
- Look in the want-ads and check your estimate for accuracy.
- Pick out some jobs that are usually held by men and compare salaries.

- Pick one job from the ads that balances the things you enjoy doing with a reasonable salary. It is a "man's job" or a "woman's job?"
- What is the official poverty level salary in the U.S.?

The best of the workshop activities have been compiled into an *EQUALS Handbook* that will enable participants to conduct training in their districts. The Handbook which is over 100 pages long reviews the research, discusses strategies for combatting math avoidance in female students, provides a wide range of activities appropriate for elementary and secondary students, and includes an annotated bibilography. It is designed to stand alone and provide all the necessary information for adopting districts.

SCHEDULE

The schedule for workshops is flexible and would depend upon the needs of the adopting district. One to two days is usually scheduled for inservice training, but if the program is used to "train trainers" a longer training session would be required. The workshop session also accommodates teachers who require more math background to adopt EQUALS materials and activities to their classroom.

PROGRAM COSTS

The developers of the program paid teachers a $30/day stipend to participate in the program. The in-service training would be financed by the school district.

PROGRAM EFFECTIVENESS

Teachers' interest in the workshops has been high and their comments very positive. Teachers have indicated that they have greater understanding of, and ability to provide, sex fair mathematics instruction. In reference to the computer activities, one teacher commented, "The increase in my knowledge of and familiarity with calculators has been phenomonal." Students of EQUALS participants are being pre- and post-tested on their attitudes toward math and knowledge of nontraditional careers.

SUGGESTIONS FOR REPLICATION

The developers of the EQUALS program are concerned about replication and have addressed the topic in the EQUALS Handbook which is available to individuals wishing to conduct training in their own districts. Sample workshop agendas as well as specific workshop and classroom activities are included. The Handbook is available from the Lawrence Hall of Science in Berkeley. Several additional points are suggested below.

- Since the workshop works best when participants are actively involved, it is advisable to create projects for them to bring with them

to the first meeting (e.g., the research surveys). In this way, each participant becomes an "expert" on his/her own school's situation, and has information to share with others. The research project is instrumental in "hooking" the educators into the program and ensuring their cooperation throughout its duration.

- While the program has a strong mathematics component, it works equally well with teachers who have a fear of mathematics. Participants are grouped according to grade level during the mathematics sessions (counselors and administrators work together) and all mathematics activities are designed to ensure success at many levels. Some of the most enthusiastic supporters of the workshops are those who were initially fearful of mathematics.
- The program can benefit greatly from follow-up activities. After the workshop, participants are encouraged to begin implementing the workshop concepts and activities in their own settings. A chance to share their experiences in this implementation will be valuable. A follow-up meeting or perhaps a short newsletter will facilitate this. Similarly, as new ideas for activities are discovered, these could be shared and thus the efforts of the workshop will be more fully integrated.

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PROGRAMS DESIGNED TO COMBAT RACE STEREOTYPING IN CAREER CHOICE

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RACE STEREOTYPING IN CAREER CHOICE

A disproportionate number of prestigious, powerful, and lucrative positions in America are occupied by Whites, while Third World Americans are over-represented in the unemployment lines and in the less sought-after jobs. This situation, which runs contrary to America's professed ideals, is the legacy of the discrimination that scars American history.

One important way to help correct the imbalance in the employment picture is through career education. An overarching goal of career education (Hoyt, 1977) is to provide students of all racial and ethnic backgrounds with a full range of educational and occupational opportunities. Career educators, therefore, are being asked to address systematically the impact of racial bias and stereotyping in order to maximize freedom of career choice for all. Although recent laws seek to eliminate discriminatory educational and occupational practices, legal measures alone cannot solve the problem. Recognition that there *is* a problem is also needed. There is an urgent need to enhance the awareness of the general public, particularly of youth, about the issues of discrimination and stereotyping and to educate them about the societal circumstances that led to the enactment of such laws. Because racial bias and stereotyping have great impact on career opportunity, career educators must assume an active role in eliminating them if the goal of career education is to be achieved. Refocusing American education in ways that eliminate racial barriers to career choices is thus an important part of the career education movement.

In view of all this, one might think that changing racist attitudes that lead to discrimination is the solution. Surely racist attitudes are ugly, and their elimination is important. But there are societal factors of equal importance that students should be made aware of and which they should be taught to handle. These efforts are entirely consistent with the ninth goal of career education that students be made "...aware of means available to themselves for changing career options—of societal and personal constraints impinging on career alternatives" (Hoyt, 1977, page 35). Career educators, however, should be aware of—and sensitive to—the fears of some that career education may have negative effects.

ISSUES IN RACIAL STEREOTYPING

Many fear that career education may serve only to perpetuate present inequities. Writing as the career education movement began, Spitzer (1970) asked "...will it [career education] shut the doors of colleges to all but middle class Whites, while Blacks are fed pell mell into service occupations, trapped for life?" Behind this fear, she cites "...the fact that American schools have not opened the doors of opportunity to minorities. Public

education has served the needs of the dominant classes of society." In light of this, she argues that:

> Education should not only prepare people for jobs, but also for survival and community involvement in a prejudiced society. The ability to analyze, criticize and change the repressive aspects of our society are vital educational tools as well.
>
> Opportunities for penetrating new occupational areas, many with closed shops, should be implicit in the Career Education curriculum and be a way of opening up these unionized enclaves that have traditionally excluded Blacks. Further, the Black community must closely monitor this program to make sure it serves the needs of the Black and poor community, and not just industry's. There must be guarantees that minority students will not be channeled into low-paying service jobs and that their decision not to pursue a B.A. is truly their own. All students must be guaranteed a total education and not merely skills training.

These remarks apply equally well to other ethnic and racial groups.

Most career educators would probably answer that the goals of their field are consistent with the expansion of opportunities that Spitzer advocates and that career education, in practice, follows through in furthering these ideals. However, there is some evidence that contradicts this view. For example, Brad Chambers of the Council on Interracial Books for Children reports the following.

> In 1972 the Council undertook an analysis of career education materials to find out, first, whether the materials reflected the racism of our society and, second, whether the materials combatted that racism. The results are reported in *Racism in Career Education Materials: How to Detect It and How to Counteract Its Effects in the Classroom.* It was a study of 100 career education materials supplied to the Council by the EPIE (Educational Products Information Exchange) Institute under a grant from NIE.
>
> The answer to the first question we posed was that, yes, the career education materials did reflect societal racism. While Blacks and other minorities were being given more visibility than before and while the blatantly overt racism of prior years—the shuffling, grinning, watermelon-eating stereotype, for instance—was largely gone, less obvious, more covert forms of racism characterized the new materials. For example, when Whites and Blacks were shown in the same career roles, the way they were depicted was often stereotypical; in contrast to the White workers who were given a variety of facial expressions and seemed to be taking their work quite seriously, Blacks were usually grinning, whether directing traffic, delivering mail, or even handling court cases....Another subtle stereotype could be seen when Whites and Blacks were depicted in

roles serving each other. When Whites were "serving" Blacks, we observed, it was usually in professional capacities—as social workers, doctors, dentists. But when Blacks were shown serving Whites, their work was non-professional and centered around food and hospitality services. Thus, while the newer materials portray minorities in a broader range of careers, the racism emerges in the portrayal of their work *relationships.*

The answer to the second question of our analysis of career education materials—did they try to counteract racism?—was no, they did not. The reason for our negative finding requires some explanation. It is important to acknowledge the improvement publishers have made in bringing visibility to minorities in career education materials. This applies both to the numbers of minorities and to the range of jobs depicted. It is absolutely vital that career education materials provide children with a full range of career options and that they show careers that are open equally to all people.

The problem is, this is not reality. In the real world, opportunities for minorities are still not at all what they are for Whites, especially for White males. Young people have got to be apprised of this, and if career education materials are to fulfill their goal, they must show the difficulties as well as the benefits of particular jobs and careers. Existing bias has got to be explained.

How can bias be explained? In part, of course, it results from outright bigotry and intentional discrimination, but these do not explain the entire situation. In addition—and this is the second issue in racial stereotyping—the way in which institutions are organized and the formal policies and informal practices under which they operate often limit or preclude participation on the basis of race. This result may, of course, be intentional. But often it is not, and this is a critical point: *discrimination can result from institutional structure even when discrimination is not its intent and when the existing policies are impartially administered.*

This last point seems as paradoxical as it is chilling. How can it be? Consider the movement of plants and businesses away from the inner city. In many cases, there are easily understood economic considerations underlying this trend which may have been evaluated impartially, that is, without regard to race. But whatever the underlying motivation, the usual *effect* is to move jobs to those areas with the highest percentage of Whites and to decrease the employment opportunities for those who remain behind.

Thus, what is sometimes called "institutional racism" results from the structure and policies of institutions, whether or not racist intent is present. These structural aspects of racial inequality in America must be addressed in any serious attempt to eliminate career stereotyping.

THE ROLE OF CAREER EDUCATION*

What can career educators do in light of these considerations and concerns? They can take several steps.

- *They can actively involve students in a critical analysis of the content of career education materials and inequalities in careers.* Promote classroom discussions of the omissions and stereotypes—the "hidden messages"—in the materials. It does not matter where the classroom discussion goes, for it will be broadening for everyone. When students research career opportunities, they should be encouraged to inquire into the historical involvement—or exclusion—of minority groups and women in a particular occupation and relate their findings to future job prospects. When outside people are invited to visit a class to discuss their careers, affirmative action officers, minority persons actually involved in combatting discrimination in employment, feminists, and disabled people involved in civil rights struggles should be included. The perspective of people who are fighting for the rights they and their group have been traditionally denied is illuminating to students.
- *They can encourage students to consider occupations in which members of their racial or ethnic group are underrepresented.* This requires that one go beyond the even-handed presentation of information and options. Society is not presently structured in such a way that people of different racial and ethnic groups have equal opportunity to learn what a dentist or a blacksmith or a stockbroker does. When people begin at different levels of awareness, immediate interest and perceived practicality will probably differ as well. Thus, while one does not wish to push students into areas that do not truly interest them, special effort may be needed to advance members of underrepresented groups to the point where they can fairly evaluate the options.
- *They can avoid tracking students into stereotyped occupations.* No worthwhile career educator would, of course, seek to perpetuate stereotypes, but he or she may do it unintentionally. The possibility, as already noted, has caused alarm among people who fear that possible overemphasis on "entry-level skills" and immediate practicality may result in just such an outcome. Career educators should be sure that Third World students are not being prepared for dead-end, low-paying jobs. This may require extra effort and imagination to break out of the psychological and sociological molds, but such effort is critical if true equality of opportunity is to be achieved.

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*Several of the suggestions here are taken from Chambers (1979).

- *They can inform students about societal factors that contribute to inequality.* Open-mindedness is necessary, but it is not enough. Students should not only have an easy acceptance of Third World people who are in positions of authority, sophistication, and responsibility, but the students should also understand why there are so few Third World people in such positions.

PROGRAMS DESCRIBED IN THIS BOOK

Although the programs described here vary widely in terms of content and methods, most share the following features:

- They promote an appreciation and understanding of various Third World Cultures.
- They seek to widen the students' knowledge of career options.
- Each seeks to enhance career awareness, motivation, and improve academic skills.
- They provide appropriate role models for students to identify themselves with by depicting Third World people in various careers.
- They often involve "hands-on" experience for students.
- Many include special counseling, tutoring, or enrichment activities.
- Many use outside resources, such as speakers from the community, tutors, and role models.

In adapting these programs, one can take advantage of these features to assure that the role of career education as discussed above is fulfilled.

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BOOTHEEL CAREER EXPLORATION PROJECT (BCEP)

A demonstration rural career education pilot modeled on 4-H

"The Bootheel Career Exploration Project," a demonstration rural career education pilot modeled on 4-H, was designed to aid disadvantaged youth in identifying and preparing for career opportunities through an informal, out-of-school extension model. The target population was low-income minority youth in nine participating schools. The first step in the project was to explore with more than 500 youth their interest and aptitude for certain career options and to develop a slide-tape directory of career opportunities that would be made available to each of the nine participating schools. The second step was to identify 150 youth whose record of school absenteeism, poor grades, and lack of success in extracurricular activities would make them particularly likely candidates for intensive counseling. The project provided information and assistance to both parents and youth concerning general education, vocational training, and job opportunities. The basic purpose of the project was to help youth prepare themselves for job opportunities.

The project was initiated by Lincoln University in cooperation with the University of Missouri-Columbia. Local leadership came from the director of extension in the Bootheel Extension Program Planning Area and the area youth specialist. High school guidance counselors in each of nine participating schools were employed by the program to develop a strong liaison with the families of the participants.

GOALS OF THE PROGRAM

The primary goal of the program was to have a majority of the disadvantaged participating youth successfully employed earning more than a minimum wage, or enrolled in a formal post-high-school education program following graduation from high school. The program also strove to involve the families of the participating youth in the career awareness process.

TARGET POPULATION

In the Bootheel area many disadvantaged youth, particularly minority youth, were unable to find and retain jobs following high school graduation. Many migrated to the St. Louis area, approximately 350 miles to the north.

Since many of these migrants were uneducated and unskilled, they found urban jobs scarce. In the Bootheel area 69% of the people have less than a high school education. Missouri, according to the latest U.S. Bureau of the Census figures, ranks eighth among the 50 states in people classified as "rural poor." The primary concentration of these, according to the Missouri Bootheel Economic Council, live in the target six-county area of southeast Missouri bordering the Mississippi River. Annual per capita expenditure for education in this area ranks the lowest in the state.

As in many other depressed areas, low-income youth in the Bootheel area are sometimes unaware of the importance of education. Many drop out of school or graduate from high school without adequate skills to become employed. Of those who are employed, a large percentage are trapped in low paying service jobs. The remainder migrate to the cities and further compound the problems there.

Often the parents of these youth lack the resources and knowledge to help their children plan, prepare for, and pursue attractive career options. As a result, many youth accept their condition as an inevitable way of life.

The Bootheel Career Exploration Project (BCEP) was an attempt to respond to the educational-vocational needs of these low-income, disadvantaged youth. Five hundred youth in grades seven through twelve in nine schools were surveyed and 150 who were identified as most in need of the services became project participants.

BACKGROUND AND DEVELOPMENT

To secure community participation in the planning process, a representative advisory group was established in each of the six counties to help formulate project objectives. School principals, superintendents, vocational teachers, and guidance counselors were involved as advisory group members, and special efforts were made to involve adult leaders from the minority community.

The first stage of BCEP consisted of a career interest survey in all nine participating schools for all 500 students in grades seven through twelve. This survey provided interest cluster and career cluster information for the students and introduced them to new options. The raw data were compiled by the Lincoln University Computer Center and then sent to the individual counseling units in all nine schools.

Second, a review was made of local, state, and federal career development publications held by each of the nine schools. This review was made to determine the number of recent publications available to the student interested in career development.

Third, youth organization leaders were contacted to gain insight information on career training and employment possibilities in the area. These contacts proved to be extremely valuable and facilitated the acceptance of the exploration project in the Bootheel area.

The following criteria were used in selecting the 150 youths who became the nucleus of the project:

- Students who are frequently absent
- Students with poor grades
- Students with an immediate desire to work and "earn money"
- Students with social difficulties with peers
- Students with a lack of parental support or guidance
- Students with personality and motivation problems
- Students living in overcrowded living quarters
- Students married or pregnant
- Students with alcoholism or drug addiction in the family
- Students with repeated confrontations with police and school authorities
- Students with no extracurricular activities

STAFFING AND MANAGEMENT

The project was locally implemented by a field coordinator, and local youth and 4-H specialists. The field coordinator reported through regular channels to the extension area director and the state youth career specialist. Career assistants, who were members of the guidance and counseling staffs of the participating school districts, served to link the program to the homes of the participants. These assistants, who worked part-time on evenings, weekends, and during summers, were paid through extension service funds. General leadership for the project came from Lincoln University, through state extension youth career specialists and, during the last year of the project, from a Lincoln University campus project coordinator who made monthly visits to the area.

Career assistants worked two to five hours per week and recorded time spent on the project. The field coordinator conferred weekly with counseling units, gaining and sharing information, exchanging ideas, offering suggestions, and reviewing participant progress.

The state youth career specialist and field coordinator conferred monthly and followed up on referrals which had been made by informal supportive groups, parents, agencies, career assistants, and co-workers. The state youth career specialist made radio, television, and community appearances soliciting additional support for career projects in the area. Monthly narratives were written by the field coordinator. These provided the area extension director and associate director with additional information to be shared with other individuals and groups.

PROGRAM IMPLEMENTATION

Bootheel area extension staff reviewed several program delivery methods before identifying a modified 4-H model as the best vehicle for information dissemination for BCEP. This model involved the use of volunteer leaders working with individuals and groups. The model also required development of close working relationships with the parents of the students involved and with others in the community.

Central to the program were weekly meetings of groups of 15 students who met for one-half to two hours at either the local school or the house of the career assistant. Discussion topics were chosen to facilitate the participants' self-expression, with the goal of helping them identify their problems and needs in career choice. Areas of discussion included attitudes toward work, interview techniques, and the problems of race and sex stereotyping. These meetings proved to be the most productive method for strengthening the career education thrust in the Bootheel area. They encouraged and motivated the school, local churches, and other youth-serving organizations to work cooperatively in career development. Individual teachers in the participating schools were encouraged to infuse career information into the regular subject matter areas. Career assistants worked closely with these teachers in organizing career materials.

Field trips were scheduled to complement classroom activities. Contacts were made with various businesses and industries of the Bootheel area for possible visits. These visits were usually arranged by the area youth specialist, with assistance from the career assistants, community organizations, or volunteer leaders. Sites visited included: a shoe company, an aluminum company, various health centers, area employment offices, news agencies, and Lincoln University.

Several career development programs were presented on eductional television stations during the span of the project. Many topics voiced at the weekly meeting were emphasized on the air. Areas of emphasis for the television programs were: economic growth and development, community program development, and marketable skill development. The response was very favorable. These television programs provided valuable information to both parents and students.

An important objective of the project was to involve the family of the participating students. Accordingly, initial visits were made to the homes of the 150 participants to: 1) introduce the program; 2) determine family interest in the program; 3) recruit any non-participants to the program; and 4) determine if the family was participating in community organizations in its area.

In order that rapport might be established more quickly between career assistants and families, family friends helped career assistants with home visits to program participants. These friends were identified through contacts with the wide variety of community organizations involved with the

project. Most of the families were receptive to the assistants and also expressed interest in the program. With other families, however, several visits were necessary before they became interested in the project.

Once the program was in operation, the career assistants and field coordinator made counseling visits with the parents to discuss their children's conduct during the group meetings, their progress in the program, the variety of learning experiences to which their children were being exposed, and the continuing need to obtain assistance from parents in the group meetings and special activities. The assistants discussed with the parents the program's objectives, participation requirements, need for volunteer leaders, and other information.

At a family's request, visits would be made to discuss concerns not related to the program. If a problem was beyond the training of the assistant or specialist, the parents were then directed to the proper agency.

FUNDING

Funding for the three-year project came through the Extension Service-USDA 1890 Land Grant Special Project funds in the amounts of $50,000 for FY 73-74; $34,343 for FY 74-75; and $15,657 for FY 75-76.

PROGRAM EFFECTIVENESS

Evaluation of the project was conducted by an evaluation team in each of the nine schools. These teams consisted of guidance counselors, teachers, field coordinators, career assistants, and state youth career specialists. The major instruments used in the evaluation included the *Career Interest Survey* and the *Missouri Student Needs Survey*. Each instrument included a pre-test and a post-test; between them they contained the following elements: (1) the Comprehensive Test of Basic Skills, (2) the Career Maturity Inventory, (3) a locally developed Self-Concept Attitude Scale, and (4) a locally developed student demographic data Questionnaire.

Other means of evaluation included:

- case studies developed for a representative sample of the 560 youth and their families
- questionnaires sent to administrative personnel for their input and suggestions
- each participant's opportunity to select his/her three most desired career choices.

Records were maintained on each of the 560 youth who developed their own career profiles, career plans, and career calendars. Youth were considered to have progressed when, one year after graduation from the program, they 1) had enrolled and made satisfactory progress in post-high school educational studies; 2) were employed at, or above, the minimum

wage; or 3) had enlisted in the military service. Enrollees were considered as still needing assistance when, one year after graduation from the program, they 1) were employed at less than the minimum wage or 2) were classified as "other"—unemployed, or working at odd jobs with uncertain pay and uncertain length of employment.

Of the 150 youth studied, data available indicate that:

- 51 are currently making progress in a vocational program, community college or university
- 3 have chosen a career in the military service
- 64 have been employed earning more than the minimum wage
- 16 have chosen marriage and do not work outside the home
- 16 could not be located at the end of three years.

In addition to success on these objective criteria, the project also generated enthusiasm among students, parents, and the community. Even after the program terminated in 1976, some of its strategies were maintained in CETA training programs and other educational efforts.

These outcomes show that BCEP represents a workable model for assisting disadvantaged rural youth in grades 7 through 12 in identifying career options. The more informal, home-oriented approach taken by cooperative extension is workable and can produce measurable results.

SUGGESTIONS FOR REPLICATION

The general approach used in this project is highly recommended by the BCEP staff for work in career education, especially with low-income and minority youth. The methodology of this pilot project is based on fundamental concepts which may be transferred to other states and situations with a clientele of differing socioeconomic background.

In addition to the need for career awareness and exploration, the project staff also identified a need for total life career development which could be an objective of a program expansion to other settings.

The following are specific recommendations for the improvement and expansion of the project:

1. A youth career orientation program should be conducted before the school year begins to provide continuity in the program over the entire year.
2. Career resource and youth information centers should be developed in each community to help students learn about career options in general and about specific job openings in particular. Staff at such a center should also counsel students to help them pursue job leads effectively and to get over rough spots that might arise on the job.
3. Attractive, positive role models of all races and both sexes should be used.

4. A wide variety of tapes should be available showing not only a range of jobs, but also discussing various aspects of training, job search, effectively dealing with job pressures, and rewards and problems to be found in various lines of work.
5. Obtain scholarships and additional monies for youth (this is especially crucial for youth with special needs) to enable them to attend vocational-technical schools, two-year community colleges, and universities.
6. Encourage and motivate the community, the school, and other youth-serving organizations to work cooperatively in changing the environment so that the youth can use more business and industry sites for "hands-on experiences."

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THE CAREER INTERN PROGRAM

Philadelphia, Pennsylvania

The "Career Intern Program," sponsored by the Opportunities Industrialization Centers of America (OIC/A), has its roots deep in America's ethnic minority communities. Primarily developed and operated through the efforts and leadership of minority people, the program helps promising students who have not been successful in a typical public school environment to achieve a new perspective on their own worth and to develop their own interests and skills. Many, though not all, students helped by this program have been minority group members.

An alternative to the regular 10-12 curriculum, the Career Intern Program (CIP) is offered at a separate school site. The staff, which includes many minority group members, has a strong orientation toward helping youngsters who need more direct attention and assistance than most public schools can give. A small student body and high staff/student ratio are important in CIP. Curriculum materials developed by CIP are built around the common experiences of youth and focus on: (1) career choice and preparation; (2) skill building in high-school-level lauguage arts, mathematics, science, and social studies; and (3) development of self-esteem.

The school is an accredited high school operating on a modified semester system and offering academic and career education experiences at the 10-12 grade levels. Students who complete all the requirements of the CIP program are awarded high school diplomas. Each student, or intern, undergoes a thorough testing procedure to pinpoint his/her academic and personal strengths and weaknesses. This information is used to individualize the intern's program.

GOAL OF THE PROGRAM

The goal of CIP is to help students who are not succeeding in school because of poor preparation or personal problems to achieve more by providing them with an environment where they are both cared about and challenged. In this process, the CIP staff hopes to help students improve their images of themselves and their abilities; learn to set and achieve goals; develop basic academic skills in language arts, social studies, mathematics, and science; earn a high school diploma; and find placement in jobs or post-high-school education after graduation.

TARGET POPULATION

CIP is aimed at actual and potential high school leavers who have academic potential, are interested in an alternative program, can read at the fifth grade level or better, have completed the tenth grade, and have no

major disciplinary problems. In the original program almost all students were Black; in later replications Hispanic, Asian, and White students were enrolled. All CIP programs to date have operated in urban areas.

BACKGROUND AND DEVELOPMENT

OIC/A was founded in the late 1960s by the Reverend Leon Sullivan, leader of a group of Black clergymen in Philadelphia who demanded and won equal employment opportuinity for minorities and disadvantaged groups in local area businesses. Because many of the people hired after this victory lacked education and training for all but the least skilled jobs, the first Opportunities Industrialization Center was founded to provide job training. A network of more than 100 OICs developed from this beginning.

In the early 1970s, the Philadelphia OIC turned its attention to the problems of actual and potential high school leavers in the hopes of preventing problems of minority unemployment. The need for a combined academic/career education program was recognized by both the OIC and the U.S. Office of Education (USOE) and its commissioner, Dr. Sidney Marland.

The result was the opening in 1972 of the Urban Career Education Center, home of CIP, in Philadelphia. Funds from both USOE and the National Institute of Education (NIE) were awarded to OIC/A to operate the Center. At this writing, CIP is also operating in Detroit, New York City, Poughkeepsie (New York), and Seattle, with funds from the Department of Labor.

STAFFING AND MANAGEMENT

The core CIP staff consists of a director, an instruction supervisor, the teaching staff (eight in the original program), a career-counseling supervisor, and the counseling staff (four counselors and four career developers). The total staff of the original program consisted of 39 people. Many staff members are themselves minority group members, often giving them added credibility with their students and allowing them to act as models of success as well. Many, but not all, staff members are certificated teachers and counselors.

In order to ensure staff competence, extensive staff training materials have been developed. These include materials on the philosophy and approach of CIP and micro-teaching workshops on specific skills. Teacher workshops are held on a regular basis. These also involve counselors, who have substantial teaching responsibilities in guidance-related subject areas.

Staff commitment to students is an essential factor at CIP. This is evident in the highly individualized programs for students, the time devoted to each student by teachers and counselors, and the close relationships which often develop between students and staff. One student commented,

> ...they take time to explain what's happening. They really take time to understand you, to see how you get along with other people in

> the classroom. The teachers here don't have the attitude they have at High School, you know, 'if he doesn't get his education, I don't care, it doesn't have anything to do with me, I'm still getting my money.' But teachers here don't feel like that, they feel that we all have to survive, so they can't turn their backs on you when they know they can help you make that change.

Regular assessment conferences concerning each intern's progress are also held by all staff members involved with that intern. Because of the type of student CIP focuses on—capable, but turned off by "the system"—an overall staff/student ratio no greater than 1:15 is maintained. Teacher/student ratios in classes are higher, about 1:25, but the ratio of other professional staff (counselors, career developers, and others) to students has been as low as 1:8.

MATERIALS, ACTIVITIES, AND FACILITIES

The CIP curriculum includes three components: a Career Counseling Seminar, required of all students and lasting for 22 weeks; academics and career education, developed for three levels corresponding to 10th, 11th and 12th grade subjects; and Hands-On work experiences in the community, typically one week in length and chosen according to student interests.

The Career Counseling Seminar is taught by a team of teachers, counselors, and career advisors. As the evaluators of the original CIP program put it, "Most interns are street wise. The seminar helps them become school wise and work wise." The seminar's curriculum materials consist of learning packets written at a fifth grade level. Illustrative topics of the "Career Information Processing" packet include:

- Identifying present career interests
- Expanding present interest into new horizons
- Choosing a career study
- Deciding on career information needed
- Locating print resources
- Interviewing career specialists
- Using community agencies
- Evaluating career resources
- Recording career information
- Writing the career report
- Sharing career information

In the component known as Fused Academics, career information and affective education are related to the academic skill areas of language arts, social studies, mathematics, and science. All CIP curriculum materials were

originally developed over a period of two years with the help of outside curriculum consultants. A total of 97 in English, social studies, and science, plus 43 lessons in mathematics, were developed at the original Philadelphia site. Other sites have adapted these materials to the needs of their students, but the purpose has continued to be teaching students high school level academic skills and integrating these with career learning. As an example, the units for the first level of English, equivalent to tenth grade work, include:

Career learning:	The Job Interview
	Communication Problems and Job Success
	Career Focusing
Academic learning:	Speaking and Listening
	Writing Better Sentences
	Writing Better Paragraphs
	Hope—the Afro-American Soul in Literature
	Flight and Fear in Literature
Learning about the self:	You, Your Language, and Career
Learning about the community:	Communication in the Community

Each of these units serves as the focus of one learning packet. Each packet contains four to eight lessons, a pre- and post-test covering packet contents, a series of readings and activities, and a list of optional enrichment activities. Teachers use the packets in ways which best fit their teaching styles and the individual needs of their students and are encouraged to alter or supplement packet content. Curriculum materials are *not* intended to replace teacher interaction with students, but rather to facilitate it. Only by this approach can the CIP commitment to individualized instruction be fulfilled. Interns vary in their readiness for learning and their ability to work independently, and teachers are encouraged to take student characteristics into account in planning student activities.

The Hands-On work experience is considered a vital part of CIP. Only after the intern and her/his counselor have formulated a Career Development Plan specifying two career interests, and after the intern has demonstrated some success in CIP does the career developer identify appropriate placements for the Hands-On experiences. These placements are carefully selected to avoid the typical youth labor market of low paying, high turnover jobs. The intern is required to have a minimum of two Hands-On experiences, each lasting at least one week. Many students participate in more Hands-On experiences, and frequently one of these turns into a long-term involvement and later a job.

Curriculum activities were originally designed for inner-city students and used the language and topics familiar to teenagers. Later replications have

modified activities for other audiences. For example, an activity called "Think About Other People" requires students to consider their feelings toward parents, teachers, police, business owners of various ethnic groups, and drug addicts. Other activities present stereotypes different groups may hold about each other.

CIPs have very effectively used separate school sites, as well as dedicated facilities of schools offering regular programs. Students have seemed to enjoy identifying with their "own place." Because of the kind of student CIP seeks to help and the voluntary nature of participation, student populations at each site have reasonably reflected the ethnic makeup of their district and "resegregation" has not been a problem.

The Student in CIP

For the intern, the four key program features of CIP are: recruitment and intake, the Career Development Plan, intern assessment, and placement in a job or post-high-school training.

The school staff keeps in touch with the public high schools in its area and actively seeks to make contact with actual or potential school leavers meeting its criteria. Referrals and walk-ins also contribute applicants. All applicants take the reading section of the Metropolitan Achievement Test to determine if they read at at least the fifth grade level. This level was chosen as the minimum for which CIP's goals and curriculum seemed appropriate. If they are admitted, they also take several other tests of academic achievement, self-concept, and career development. These tests are used only for purposes of planning the intern's program.

The Career Development Plan (CDP) is based on results of the above tests, the intern's progress through CIP, and the intern's top two career choices. The CDP is used as a basis for selecting Hands-On experiences and individualizing the intern's academic program.

Intern assessment is conducted regularly to ascertain problems, assign grades, and plan future instruction. Conferences including all staff involved with an intern are also conducted regularly. Both teachers and counselors have input into the assessment and grading process, which is based on overall staff judgments about the intern rather than on rigid criteria.

Placement services have relied in part on the experience and reputation of OIC. Often the Hands-On placement has provided the key to a job, and frequently CIP has been able to pay the intern's salary during on-the-job training or to offer other financial assistance. One of the CIP counseling staff usually assumes the role of college counselor, assisting interns in selecting and applying to colleges.

COMMUNITY INVOLVEMENT

Community involvement is clearly essential to the Hands-On experiences every intern must undergo. Placements are sought in all types of local

businesses, agencies, and organizations. Community members also participated in community advisory councils which offer assistance to the school staffs in school activities such as career fairs and in classrooms as resource speakers. Parents have also been involved in these kinds of roles; in addition, workshops specifically for parents have been conducted on topics such as parenting and effective consumerism.

COSTS AND FUNDING SOURCE

The 1977 evaluation of CIP, prepared by Richard A. Gibboney Associates, Inc., presents detailed data on the costs of CIP at the Philadelphia site over one year (March 1, 1975 to February 29, 1976). The report also compares these costs with those in the district's regular high school during the *previous* year, the most recent period for which data were available. The comparable figures, adjusted to allow for a projected 10% increase in the local high school budget, were:

CIP	$2,483 per student over a 10-month year
Local school	$1,870 per student over a 10-month year

The school served 192 pupils during this time, for a total budget of about $476,800 over a 10-month period.

The program is currently funded by the Department of Labor through YEDPA discretionary funds. Funds for replication might also be sought from other federal funding sources, such as CETA and ESEA Title IV.

PROGRAM EFFECTIVENESS

CIP success has been measured on several dimensions. The evaluation of CIP prepared in 1977 showed that, on the average, CIP students gained in their opinions of themselves as students and in their knowledge of career resources. Attendance and responsible behavior also increased. In addition, when compared to a randomly selected control group, CIP interns showed statistically and educationally significant gains in both reading and mathematics. CIP has been approved as educationally effective by the USOE/NIE Joint Dissemination Review Panel (JDRP).

SUGGESTIONS FOR REPLICATION

The evaluation of CIP lists a number of factors necessary for reproducing the CIP in non-CIP sites. Foremost among these is an organizational and staff commitment to serving the community and a high degree of credibility with the target groups. A dynamic and committed leader such as Reverend Sullivan is vital, and it is likely that a sense of ownership by the community itself is also essential. Small school size, individualized instruction and counseling, and Hands-On experiences in community work sites are also important. Extensive curriculum development is *not* needed, however, as CIP

staff and consultants have spent several years developing and refining learning packages which infuse career information into academic materials appropriate for use with target students. These materials may be available on a limited basis. The staff is currently developing materials for wider dissemination, including implementation manuals for other educators; these should be available early in 1981.

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BILINGUAL CAREER-ORIENTED CURRICULUM MATERIALS THE NATIONAL CENTER FOR THE DEVELOPMENT OF BILINGUAL CURRICULUM

Dallas, Texas

The National Center for the Development of Bilingual Curriculum is undertaking an innovative and exciting direction in curriculum development: preparing career-oriented Spanish/English bilingual materials that infuse career education concepts into the regular curriculum. These materials, under development for grades six through eight, are designed to supplement instruction in the basic subject areas of language arts, social studies, mathematics, and science. To present both English and Spanish activities in a valid cultural context, the materials have not been developed through translation. Instead, the materials are being developed independently in both languages using comparable, but not identical, learning objectives and activities. As a result, the English and Spanish strands can be used independently, or both can be used consecutively with the same students without repetition of activities.

The purpose of the materials is not only to motivate students toward greater academic achievement, but also to combat the effects of racial and ethnic stereotyping. In addition, the materials promote the appreciation and understanding of Hispanic culture through the reinforcement of second language concepts. The sixth grade portion of the curriculum has been developed and is now being pilot-tested in six states; these materials should be available in late 1980.

GOALS OF THE PROGRAM

The bilingual curriculum seeks to prepare students for the world of work by integrating career education concepts and activities with instruction in basic subject areas. The culturally and linguistically authentic materials are designed to achieve the following goals:

- To increase students' proficiency in their native language and in English as well
- To encourage scholastic achievement for job preparation
- To promote career awareness, preparation, exploration, and decision making.

The curriculum is based on the assumption that education in basic subject areas is most effective when it assists students in identifying and

understanding the career options available to them, analyzing their own interests and abilities, and preparing for meaningful and productive roles in both the minority culture and the majority culture. Accordingly, the curriculum infuses the full range of career education concepts into basic subject areas. Particular attention is given in the curriculum to combatting stereotypes that have traditionally pervaded the "covert curriculum" of the schools and that have for so long limited the career choices of minority Americans. The hope is that this focus on such careers will enhance students' self-esteem and raise their level of career aspiration.

TARGET POPULATION

The curriculum is intended for intermediate Spanish-speaking students with limited English-speaking ability. But since the materials have parallel activities in English, the English units are also appropriate for use with other groups. The materials can be used in a variety of settings including urban, suburban, and rural.

BACKGROUND AND DEVELOPMENT

The National Center for the Development of Bilingual Curriculum was established through an ESEA Title VII grant to develop a career-oriented bilingual curriculum for grades six through eight. Such a curriculum is needed because many minority students, especially those of limited English-speaking ability, terminate their education without salable skills and without a positive orientation toward the world of work. These young people also appear to lack training that would prepare them to work in an increasingly complex society. Their lack of preparation is reflected in high dropout rates, low levels of interest and achievement, and lack of basic skills in the areas of reading, writing, and computation.

In developing truly authentic bilingual materials, the staff of the Center decided to depart from the common approach to bilingual materials development that involves direct translation from monocultural and monolingual English materials into a second language. This traditional method was regarded by the staff as inadequate. They believed that even the best translations might appear false and inauthentic, with the real meaning hidden from anyone who does not share the cultural meanings expressed in the original version.

As an alternative to this method, the Center chose to prepare a common scope and sequence of behavioral objectives which were then developed independently in each language via comparable but not identical, learning activities. There are several advantages to this approach:

- Every student has the opportunity to experience intellectual growth because the full range of learning objectives is available in his or her native language.

- Since the content and the learning methods of the two versions are different, both sets of units may be used without repetiton of activities. New material is available to motivate the students to use each language within an authentic cultural frame of reference.
- The difference between the content and the activities of the two versions allows the bilingual learner to practice needed concepts and attitudes in a second language without the stigma of "remedial" work and without using oversimplified content.

Definition of Career Education

As defined by the Center, career education is the comprehensive preparation of the individual for full participation in the social and economic life of this country in ways that are consistent with the individual's personal growth and satisfaction. The specific goals of career education, as defined by the Center, are:

- To stimulate the individual student to analyze and clarify his or her own interests, abilities, and values.
- To present the student with relevant information and adequate role models on which to base career decisions.
- To provide experiences and exercises to instill necessary knowledge and appropriate attitudes and personal characteristics to prepare for a career in the profession or vocation preferred by the individual.
- To motivate appropriate career decision making by the individual, based on relevant personal aspirations, career requirements, and changing employment conditions.

MATERIALS AND ACTIVITIES

The Center has developed a range of innovative materials—mainly learning kits incorporating original Spanish and English materials—developed in accord with the philosophy already discussed. Materials have the following features:

- Although the objectives for each of the Learning Kits are the same for both languages, the learning activities for each language are developed within that linguistic and cultural framework.
- None of the materials is a translation from one language to another; therefore, the materials have integrity and are authentic in development and presentation.
- Each kit contains a balanced emphasis on cognitive and affective objectives for career orientation and the designated subject matter areas.
- The materials are designed for use with monolingual as well as with bilingual students.

- The materials are designed for use with entire classrooms, small group instruction, and/or individualized guided instruction.

The Learning Kits are organized according to the following format:

Overview
Goals and Objectives
Entry Behavior
Teaching Procedure
Extension for Home and Community
Experiential Learning Outcomes
Learning Activities (student materials)
Interim Inventories
Mastery Tests

At the sixth grade level, each of three subject areas in each language contains 16 Learning Kits. One kit is introductory; each of the other 15 is focused on a career in one of the 15 USOE career clusters. Thus, at the sixth grade level the final set of materials will comprise 96 Learning Kits. Because of more structured course requirements at the middle school level, Center staff decided to regroup the 15 USOE career clusters into 9 clusters for use in the seventh and eighth grade kits to allow for more adaptable utilization. At these grade levels, science is used as a subject area in each language in addition to language arts, math, and social studies. This regrouping will result in a final set of Learning Kits.

The following chart summarizes materials and availability.

		Language Arts	Social Studies	Mathematics
Sixth grade materials (available late 1980)	English Strand	1 introductory kit 15 career kits	1 introductory kit 15 career kits	1 introductory kit 15 career kits
	Spanish Strand	1 introductory kit 15 career kits	1 introductory kit 15 career kits	1 introductory kit 15 career kits

		Language Arts	Social Studies	Mathematics	Science
Seventh and eighth grade materials (pilot testing 1980-81)	Spanish Strand	9 career kits	9 career kits	9 career kits	9 career kits
	English Strand	9 career kits	9 career kits	9 career kits	9 career kits

Each Learning Kit includes a teacher guide, a student workbook, and a set of mastery tests. Each of these documents is available in English and Spanish for each of the three subject areas of language arts, social studies, and mathematics. English materials are written at fourth and fifth grade

reading levels; Spanish materials are written at fifth and sixth grade reading levels.

Each Learning Kit contains three learning activities. The initial activity provides such career information about one of the 15 job clusters as working conditions, qualifications, personal characteristics of the workers, and benefits. The second activity, which has both cognitive and affective goals, focuses on a career orientation concept such as aptitudes and attitudes toward work. The third activity emphasizes and reinforces a skill in each of the subject areas. The activities portray men and women of all races performing many different jobs, with an emphasis on nontraditional roles.

Each learning activity consists of (1) in-class exercises suited to whole groups, small groups, and individualized instruction; (2) projects for the extension of learning into the home and community to increase parent involvement and aid in creating an integrated world view in which the experiences of the students' home and community form a valued part of the school learning experience; and (3) a section detailing experiential learning outcomes in terms of the products, experiences, and projects participated in by the learner in this student-centered curriculum.

To cover all the materials in a kit, four to five classroom periods of 45 minutes each, or approximately one week, are required. Each learning activity contains its own pretest and interim evaluation measures to provide for diagnostic prescriptive teaching procedures. The kit mastery tests may be used at the end of a kit or two or more tests may be combined for less frequent testing of the retention of learning.

To facilitate use of the kits, the Teacher's Guide includes an overview which provides a general introduction to the material, goals, titles of the three activities, and objectives. Also, requisite entry behavior and required equipment are listed. Comprehensive teaching procedures are included which present suggested classroom management techniques. These techniques allow for individual, small group, or entire class instruction.

The materials provide comprehensive bilingual career education combined with supplementary basic skills and concepts to motivate academic achievement in baseline curriculum learning activities. Many teachers will choose to select specific learning activities to introduce, motivate, enrich, or supplement baseline curricula in mathematics, science, social studies, and language arts. The materials are designed to facilitate the teacher's task in every possible way. Goals and objectives are stated in two formats based on Bloom's taxonomy: narrative and outline. This format allows the teacher to use either the entire set of materials or portions of the materials to supplement baseline curriculum goals and objectives of the local school district.

Complementary Products

A series of bilingual materials for cultural enrichment are now being prepared for pilot testing. These materials include the following:

- Learning Kits for French-English bilingual students. These kits, designed for use in social studies, have been developed around career clusters.
- Learning Kits consisting of culturally-oriented Hispanic stories that relate cultural experiences in the minority society to careers in the mainstream economy. They also encourage the student to appreciate Hispanic American culture by providing information on holidays, holy days, and special celebrations. Additionally, some of the kits provide stories of outstanding Hispanic Americans in professional, technical, and business careers, thereby presenting children with relevant role models.
- Career Autobiographies, written in a conversational style, provide the following information about each career cluster:
  1. activities which are associated with that career;
  2. working conditions;
  3. qualifications needed;
  4. related school subjects that a person might have taken in high school;
  5. personal characteristics of people who enjoy and do well in that career;
  6. possibilities of and requirements for promotions or advancements to a different position; and
  7. possibilities for transferring to other related jobs or retraining for a similar position in another field.

COSTS

Since the materials are still undergoing pilot testing, no costs have been established. When materials are available for purchase, they will be marketed at cost by the Dissemination Assessment Centers under ESEA Title VII, or at competitive market prices if distributed by a private publishing company.

PROGRAM EFFECTIVENESS

As a first step in assessing the effectiveness of the materials, the National Dissemination Assessment Center for Bilingual Education is pilot testing the sixth grade materials in six states. The pilot testing is being conducted with Spanish and English speaking students of a variety of cultural heritages. The general purpose of the pilot testing is to gather information that will be used to revise the materials, to determine whether the materials can be effectively used with different target populations and in different settings, and to determine whether teachers can use the materials without special training. Specifically, the pilot testing is designed to answer the following questions:

Content

Do the activities lead to accomplishment of the behavioral objectives?
Is the reading level appropriate for the students?

Flexibility

Can the material be used successfully with students of varying backgrounds and abilities?
Can teachers of varying experience, ability, and teaching style use the material successfully?

Organization

Do the components of the kit follow a logical order?
Is the sequencing of kit topics appropriate?

The sixth grade materials will be ready for dissemination in the latter half of 1980. Development of materials for the seventh and eighth grade levels is just beginning. They will be ready for pilot testing in 1980. The materials will be reproduced and disseminated according to U.S. Office of Education guidelines for ESEA Title VII curriculum products.

SUGGESTIONS FOR REPLICATION

The materials are designed to supplement the curriculum in the basic subject matter areas. Accordingly, the materials should be used for review purposes and not for initial development of the skill or concept in question. The major purpose of the materials is to motivate the students to learn by showing them that what is learned in school has an application in the world of work. Another purpose of the materials is to allow the student an opportunity to identify his or her skills and interests and to begin to match these with possible careers. Through using these materials in grades six through eight the students will not only be motivated to achieve academically but will also be able to make a wise selection of classes when they enter high school. To help the teacher use these materials effectively, the National Center has developed a booklet for users. This will be available free of charge once the materials have been field-tested and are ready for distribution.

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CHOICES AND CAREERS: FREE TO CHOOSE

Madison, Wisconsin

It is an exciting time in a young woman's life when she is growing into an adult. But it can also be a difficult stage in her development because preparation for her future becomes an all-too-real issue which she must confront. Aside from the physical, emotional, and social apsects of growing up, she is faced with making educational and occupational decisions that will have a great impact on her life as an adult. Recognizing a great need to provide girls and young women with information and assistance in making such decisions in a rational and intelligent manner, a group of tribal women developed the *"Choices and Careers: Free to Choose"* program for use with young Native American women. Members of the community are selected for training as group leaders, then begin working with tribal girls and young women for a three- to five-month period. The program consists of 16 curricular units covering such topics as personal development, career exploration, interpersonal relationships, personal finance management, and life planning. The units are designed to be used either as part of the public school curriculum or as an outreach program through community resource centers.

GOALS OF THE PROGRAM

The program was designed with four major objectives in mind: (1) to help young Native American Women seriously realize that they will be active participants in the job market; (2) to assist them in making realistic occupational plans; (3) to assist them in making decisons now so they may adequately prepare themselves for their educational and occupational futures; and (4) to help them develop higher levels of self-esteem by recognizing their individual talents and abilities. The young women learn about various aspects of maturation and identify occupational fields that correspond with their own interests. They also develop skills in planning for and obtaining a job.

TARGET POPULATION

The program is designed for girls and young women from various midwestern Native American tribes. Preferably, they should be enrolled in school, so that they may use the program as a supplement to their academic experiences. Some of the 16 units are suitable for all young women in the target group (ages 9-18), while others are specifically intended for older students (12-14 and 15-18). In the development of the program, six units were also designed for adult tribal women.

BACKGROUND AND DEVELOPMENT

This career development program was an outcome of a conference, "Tribal Women: Yesterday, Today, and Tomorrow," attended by over 300 Wisconsin tribal women in 1973. An advisory committee of tribal women, with funding by the University of Wisconsin Extension Services, planned the program and reviewed the curriculum. The program was initiated in local communities in October 1975. Local community members were selected for a two- to four-day training session in a centralized location. This was followed by on-site training sessions. Using the curriculum materials, the group leaders recruited and met with groups of girls and young women once or twice a week for three to five months. Initially, the program involved 29 group leaders working in 15 communities. A total of 429 young women participated in the program. Since then the program has not been formally instituted, although materials have been disseminated to several organizations nationwide.

STAFFING AND MANAGEMENT

The program was headquartered at the University of Wisconsin as part of the Cooperative Extension Services in Madison. The program was led by a project director who coordinated all facets of the program, including recruitment, selection, and training of group leaders. The recruitment and selection process was conducted within local communities and involved the cooperation of tribal leaders. Training sessions for group leaders were held in each community. In these sessions, the project director introduced group leaders to the materials and other aspects of the program. Group leaders ranged in age from 19 to 40 and in education from high school dropouts to college graduates. Once out in the field, group leaders maintained weekly contact with the project director, conveying their progress and any problems encountered. Group leaders also held periodic meetings to discuss their experiences with the program. Effective administration of this program requires at least one full-time director to coordinate the recruiting, selection, training, and activities of the group leaders.

FACILITIES AND MATERIALS

Modularized materials are used in the program, each based on carefully stated objectives. Activities and materials include slides, group discussions and exercises, projects, field trips, and guest speakers. Special equipment is restricted to film and slide projectors. Each curriculum unit includes a *Fact Sheet* which provides an introduction to the unit; a *Leader's Guide* which provides the group leader with background information; and the objectives for the unit. Also included in each unit are booklets for each age group for which the unit is designed. The three age groups are 9-11, 12-14, and 15-18. These booklets provide the girls with background information about the topic and details of the activities to be undertaken. The 16 units are divided

into three main components: About Careers; About Being an Indian Woman; and About Being a Special Person.

ACTIVITIES

A brief description of each unit subsumed under the three components is given below.

About Careers

Growing Up focuses upon the physical, emotional, and social aspects involved in growing up as a female. It attempts to help students recognize the stereotyped perspective given to women and the passive roles attributed to them by society. It stresses the importance of planning career goals. The unit also attempts to help students learn positive images of themselves, both physically and psychologically. Activities involve viewing slides that convey stereotypic functions of women and discussing them, making collages about their own special characteristics, and planning participation in a sport or other physical activity. The unit is suitable for ages 9-18.

Decision Making conveys to students the importance of making decisions in their lives. It focuses on developing decision-making skills so that the students are better able to control outcomes in their lives. The importance of values, information, and recognizing options in making decisions is discussed. Activities are centered around making decisions regarding what school courses to take. The unit is designed for ages 12-18.

Educational Opportunities provides students with information about colleges, vocational-technical schools, and apprenticeship programs. Through slides, guest speakers, and short stories students become familiar with the various educational opportunities available so they are better able to develop their educational plans, including post-high-school education. This unit is suitable for ages 12-18.

Exploring Careers helps young women focus on their personal interests, likes, and dislikes and match these characteristics with the types of work they might be interested in. Activities include interviewing people working in various careers. The unit is designed for ages 9-18.

Career Opportunities focuses upon various career fields and what is necessary to be successful in them. Job clusters are discussed in relation to school subjects. Activities involve field trips, guest speakers, and interviews. The unit provides activities for young women ages 9-18.

About Being an Indian Woman

Traditional Roles discusses roles historically assigned to women in various tribes and compares those with the roles of today and possible roles in the future. The unit also deals with stereotypes and the differences between tribes. Activities involve looking at how the media portray Native American women. This unit is designed for ages 9-18.

Famous Indian Women exposes students to tribal women who have made significant contributions to society. A bibliography is provided so students may further explore the lives of several of these women. Brief biographical sketches are provided. Students involve themselves in such activities as identifying women in their own community who are contributing to society in some way. This unit is suitable for ages 9-18.

Growing Up to Be a Woman centers around reading and discussing a story written by Clara Blackbird De Coteau concerning the first 18 years of her life. This provides students with insight into what difficulties must sometimes be faced when growing up. Activities involve asking others to describe their life experiences. The unit is designed for ages 9-18.

About Being a Special Person

The Outside You focuses on developing good grooming habits so young women may pride themselves on their physical appearance. Maintaining a natural appearance is featured, while use of makeup is deemphasized. Activities involve responding to checklists concerning proper grooming habits. This unit is intended for ages 9-18.

Marriage—Expectations or Reality attempts to help young women gain a realistic perspective on marriage and motherhood as these relate to their working lives. Marriage is discussed historically and presently. Discussed are factors that can cause stress in a marriage and ways to deal with them. Activities involve recognizing roles in marriage and responding to a quiz concerning teenage marriages. This unit is intended for ages 12-18.

Just for You focuses on various aspects of human sexuality. Topics covered are birth control, teenage pregnancies, homosexuality, masturbation, premarital sex, and venereal disease. The unit is written to help young women become more aware of their sexuality and make responsible decisions concerning their sexual behavior. Activities include several quizzes and a slide show. This unit is suitable for ages 12-18.

Your Money discusses the need to establish wise financial management principles early in life. Attitudes toward money are discussed. The unit also deals with managing other resources such as time, energy, and material possessions. Activities center around budgeting allowances and earnings. This unit is intended for ages 9-18.

Food and You focuses upon the importance of establishing nutritious eating habits. Foods and diets are discussed. Activities involve identifying the nutritional aspects of foods and their importance to the body. This unit is intended for ages 9-18.

Alcoholism deals with the definition, physical effects, psychological effects, causes, and recognition of alcohol abuse. Issues discussed are alcoholic parents and teenage drinking. Activities involve reading several case studies of alcoholics as a basis from which to discuss the problem. This unit is designed for ages 15-18.

Coping with Parents deals with the relationships between teenagers and their parents. It attempts to help young women develop an understanding of child-parent conflicts, their causes, and ways to better handle such conflicts. The central activity used in this unit is role playing. This unit is intended for ages 15-18.

Life Span Planning is the culmination of all the previous units. Girls are encouraged to design a life plan showing how they hope to see their life turn out. The unit involves three activities: (1) completing a Life Span Plan; (2) designing a pictorial display to symbolize their lives; and (3) writing a life story on what kind of life they would like to have. This unit is useful with ages 9-18.

SCHEDULE

Group leaders generally meet with groups of students at a preselected community location once or twice a week over a three- to five-month period depending upon the time necessary to cover the material. The sessions can vary from 50 minutes to half a day in length.

COMMUNITY INVOLVEMENT

The program is dependent upon community resources in that it relies upon group leaders recruited from tribal communities and makes use of facilities supplied by those communities.

COSTS AND FUNDING SOURCE

Financial support to implement and administer the program may be sought from public organizations that serve Native Americans, from CETA funds, or from educational grants. The cost of the materials themselves is nominal: $53.50 for an entire set of units. In addition, the units plus a number of reports on their use are available at cost through the ERIC System. Audio-visual equipment may be acquired on a loan basis through local facilities such as the public library or the audio-visual department of a local school.

PROGRAM EFFECTIVENESS

Regular evaluations have been done on the program and are available from the contact person. Aside from this, the program has received many favorable comments from the young women participating in the program, parents, and the community in general. Group leaders also feel that they have seen positive changes in the students' thinking and an increased awareness of the options available to them in school and in the world of work.

SUGGESTIONS FOR REPLICATION

The *Choices and Careers* program has been fully developed, implemented, and evaluated and is easily transportable to other settings serving young Native American women. Though it was developed with input from midwestern tribal women, its topics are so universal that it should be easily adaptable to other regions, with perhaps some adaptation to include local women and customs within the existing activities.

Most of the units in this program could also be used with boys with some modification, though a few would require substantial adaptation (such as *The Outside You,* the unit concerned with good grooming). Some units could be used to help boys address universal problems (*Your Money* and *Coping with Parents,* for example); others could be used to raise boys' awareness about the roles and problems of Native American females.

Several possibilities exist for implementing the program as a whole, or portions of it. To keep costs to a minimum, it is suggested that the program leaders seek community facilities and attempt to recruit group leaders from existing organizations and service agencies. Community health services are a good setting for either an outreach approach to supplement work being done with Native American families in their homes or for establishment of short group sessions at a centralized community location. Program units may also be used as a part of ongoing activities in a 4-H program. Upward Bound programs could also easily integrate the units into their curriculum. Public school implementation could be very effective also; to ensure compliance with Title IX, some adaptation of the units for boys should be considered.

Previous group leaders have provided several suggestions to prospective leaders in order to realize a productive and successful program; these are available in project reports. Among them are teacher preparation, familiarization with the instructional materials, patience, persistence, dependability, and a genuine interest in the welfare of the young women who participate in the program.

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TO ORDER MATERIALS CONTACT

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The units and several project reports are available through the Educational Resources Information Centers (ERIC) system. Check with your local education office for information. ERIC numbers for these documents are ED 158936 - ED 158944 and ED 152446 - ED 152449.

INDIVIDUAL DIFFERENCES: AN EXPERIENCE IN HUMAN RELATIONS FOR CHILDREN

Madison, Wisconsin

During the early years of schooling, one important goal is the development within the child of those basic academic skills necessary to progress up the educational ladder. But there is another major aspect of the child's development that is often ignored by the educational system. This is the child's social development and the attitudes and skills which enable the child to feel and show respect for people of many colors, cultures, physical attributes, and interests.

To many children, individual differences may prove threatening when first experienced in school, with the results that some engage in such behavior as name calling, fighting, and shunning of peers, or in withdrawal from peers accompanied by signs of lowered self-esteem.

The program was developed in an effort to increase students' understanding of others and to diminish such behaviors. It is designed to work affirmatively and systematically at improving students' attitudes and perceptions to bring about a greater degree of respect for individual differences. The program is aimed at helping students recognize that differences are not shortcomings to be viewed as oddities, but rather are unique and positive elements of the person.

Basically, the program consists of two handbooks composed of numerous activities generally carried out in the classroom. The activities explore such topics as love, self-identity, joy, despair, and prejudice. By helping students to become aware of individual differences, the program can play an important role in the awareness component of career education: it can help students recognize that people choose different occupations as a result of their individual characteristics, needs, and situations. Also, by heightening students' self-concepts, the program can help them raise their aspirations and consider careers they may never have thought of.

GOALS OF THE PROGRAM

The primary goal of this program is "to promote an understanding and respect for individual differences" in elementary (K-5) school children. By building students' awareness about people of different backgrounds and people with physical or mental differences, the program may help them avoid developing stereotypes of people they perceive as different from themselves. Activities are designed to assist younger students in developing a realistic appraisal of themselves and other people and their relationships.

TARGET POPULATION

The activities included in the program were originally designed for students at the preschool to 3rd grade level. Since then, a separate handbook has been developed for use with 4th and 5th grade students. The flexibility and adaptability of the program materials make them appropriate for use with students from all socioeconomic and geographical backgrounds.

BACKGROUND AND DEVELOPMENT

The handbooks are a product of ten years of ongoing effort by the members of the Individual Differences Committee of the Madison Public Schools, Madison, Wisconsin, headed by Marlene Cummings of the districts Department of Human Relations. This committee felt that if young children were made aware of and recognized the diversity of people about them, they would be more likely to develop positive relationships with others which might continue throughout their lives. The committee was composed of specialists in child development, elementary school teachers, and administrators. During the development of the program, consultants from various specialized areas such as human relations, youth development, child psychiatry, and pediatrics contributed their expertise. Parents also participated extensively in the development of the materials. After the handbooks were initially compiled, they were pilot tested by elementary school teachers and parents for a six-month period. On the basis of suggestions derived from this testing, revisions and modifications were made and a final edition was printed in 1974.

STAFFING AND MANAGEMENT

To implement the program requires no special staffing or administration since selected activities can simply be used to supplement the regular classroom curriculum. Because this program is essentially a course in human relations, it would be beneficial to recruit the support of all school personnel in order to ensure a consistent set of models for student behavior.

MATERIALS

This program consists of two handbooks of activities: *Individual Differences: An Experience in Human Relations for Children* for grades K–3, and *A Supplement to Individual Differences: An Experience in Human Relations for Children* for grades 4–5. Each handbook is designed around eight objectives:

1. The child will recognize everyone, including himself/herself, as a unique member of the human family and will be able to list some common needs of *all* members of the human family.

2. The child will recognize herself/himself as a unique individual, with both capabilities and limitations, and will be able to recognize and list both types of his or her own differences.
3. The child will be able to list individual "inside" differences (i.e., ideas, beliefs, values, and attitudes) and will be able to state why these differences are just as important to others as her or his own are to herself/himself.
4. The child will recognize that each individual has emotions and feelings and different ways of expressing these emotions and feelings, and the child will be able to give examples of emotions and the ways they can be expressed.
5. The child will be able to define prejudice in his or her own words and to give examples of it.
6. The child will be able to identify her/his own dislikes (as opposed to prejudices) and substantiate these dislikes with reasons.
7. The child will be able to explain several biological differences and their relationship to prejudice.
8. The child will be able to list several cultural differences within our country, realizing how these differences contribute to the enjoyment of the human family.

Originators of the handbooks suggest that instructors using the materials present them in the order given. However, since children will differ in their familiarity with particular topics to be covered, the extent to which each objective should be taught is left to the discretion of the instructor.

Included in the handbooks is a bibliography of selected books and materials which can be used to reinforce the goals of the program. A *Parent Guide* that explains the program and its objectives is available with the materials. This guide also gives suggestions on how parents can further the goals of the program in the home.

ACTIVITIES

The handbooks are composed of five sections or books according to specific objectives. Under each objective are various concepts to be learned followed by the activities to be used in teaching the concepts. At the preschool through 3rd grade level there are a total of 270 activities. There are 105 such activities in the supplement used by 4th and 5th graders. Each of the five sections for the K-3 handbook is discussed below. The grades 4-5 handbook is structured in the same way and activities are often similar, though more advanced and written at a higher reading level.

Book One

This first section of the handbook centers about Objectives 1 and 2 and is concerned with developing within the child a sense of awareness of self and

others, as well as a healthy respect for differences perceived in others. Individual differences are presented in a positive light so that children do not develop negative attitudes towards persons who are different from themselves.

This section comprises 59 separate activities dealing with such topics as family differences, biological and non-biological needs, uniqueness of self and others, and career education. Figure 1 details several activities taken from this section which examine the uniqueness of individuals.

Six activities are concerned with education about careers. One, for example, has children learn about the various jobs in their school such as custodian, principal, and teacher. Children then invite school employees to be guest speakers in their class.

Book Two

Activities in this section are built around Objective 3 and are designed to introduce children to "inside" differences (i.e., ideas, beliefs, values, and attitudes) so that they may come to respect beliefs that differ from their own. This section includes 31 activities. Figure 2 illustrates two of them.

Book Three

The 116 activities in this section are built around Objective 4; they are aimed at having children become more sensitive to the feelings of others and, in turn, to get to know and accept themselves better. Activities help children learn that individuals possess various emotions and feeling which are expressed in different ways. For example, one involves playing charades in which each child acts out a particular feeling drawn from a hat and the others guess what the emotion is. Figure 3 illustrates other activities found in this section.

Book Four

This section is designed to introduce children to the concept of prejudice. It is based on Objectives 5, 6, and 7. There are 36 activities in this section. An example of a particular activity in this section deals with the issue of stereotyping as "mental pictures" or "pictures in the mind." Children are asked to close their eyes and describe what they see a Native American person doing. Responses are then written on the board and discussed. This allows the teacher to focus on the negative images attributed to Native Americans. This activity can be used to discuss stereotypes about various other ethnic groups or groups of people negatively portrayed because of physical, mental, or social attributes they may have. Figure 4 illustrates an activity from this section that deals with physical differences from a biological perspective.

Figure 1

ACTIVITIES FROM BOOK ONE

Activity 27 ***"Whose Voice"***

Let each child record his voice into a tape recorder. He may say anything he wishes using his natural voice. Then play the recording back stopping the recorder after each child's comment. Ask the children to identify the speaker by his voice. Ask why all the voices were not the same. Ask the children which child had the right voice for all children, leading the children to the answer there is no *the* right voice for all. Your voice is part of being you.

Activity 30 ***"What's in a Name"***

List each child's first name on a chart. Ask if any child knows what his name means or why he has that name. Have a baby book handy. Look up the meaning of each child's name, writing it on the chart. Ask why everyone isn't named the same? Lead the children to realize that your name is another part of your uniqueness. It makes you, you. Give each child a paper to write his/her name and its meaning. Add to the "All About Me" scrapbook. Ask the children "Which name is the right one to have?" There is no right answer as the name one has is what makes you, you!

Activity 31 ***"You are Yourself and No One is Exactly Like You."***
Adapted from the guidebook for the WHA-TV series, "All About You."

Show pictures of identical twins. Tell the children that the twins live in the same house, have the same parents, and go to the same school. Ask the children if they think any funny things have happened to them because they look alike. Ask the children how they think the twins are not alike. Lead the children to realize that each twin is unique with different likes, dislikes, variety of interests.

Figure 2

ACTIVITIES FROM BOOK TWO

Activity 84 ***Beliefs - Religion - and the Phone Book!***

To point out the wide range of religions found in our community, use the yellow pages in the phone book as a resource. As the children use the phone book and discover the range of categories, record them on the chalkboard under "Madison." For comparative value, also look at Chicago's, Milwaukee's, and Verona's phone books. Stressing that religion, agnosticism, or atheism is a personal choice, the following questions may help:

1. Who decides if religion or a particular belief will be a part of your life? Why?
2. Is it something families have a choice about? Why?
3. Is *one* religion or belief "better" than another? Why or why not?
4. Can people decide they do not care to be involved in a religion?

Be sure it is clear to the children that whatever their families believe, and whatever they believe, *it is right for them!,* and it does not have to be right for anyone else as long as it is right for them. Remember: Religion is an individual choice.

Activity 85 ***Election Time***

Election time is always a time when curiosity is at the highest. The children are curious about who the candidates are, the voting machines, and why people talk about it so much. Ask the children what kind of a person would make a good candidate; list their answers. To help the children appreciate the work, beliefs, and emotions of an election, ask some older children to take a poll in your classroom. The poll can be used to explain that what people believe is important to the candidates. Some possible ideas for "polls" are:

1. A good teacher is one who lets you do what you want.
2. All cooks are girls.
3. When teachers scold you they don't like you.
4. Only blue-eyed, light-skinned children make good volleyball players.

The children should be able to state why they have their specific belief about the poll that's been taken.

Also, the front "piece" of the voting machines presently used can be removed and brought into the classroom. With this, it's possible to concretely explain how this machine is used.

Figure 3

ACTIVITIES FROM BOOK THREE

Activity 104 *Creative Writing with Illustration—The Ideal Friend*

Have children describe their ideal imaginary friend in terms of feelings they would like him to have in large amounts and feelings they would like him to have in small amounts.

Have each child create his own personal friend out of construction paper and label each part with a feeling they would like their friend to have.

Activity 105 *Collage of Feelings*

Have the child make a collage from magazines of people's feelings expressing them through different emotions. Mount these around the room and point out that there are many feelings and many ways of expressing these feelings, thus, many emotions.

Figure 4

ACTIVITIES FROM BOOK FOUR

Activity 234 *Eye Color*

Children will be able to explain in their own words hair and eye color differences.

Explain that melanin is found in the hair as are other pigments such as the yellow-gold pigment (Carotene). When there is lots of melanin in the hair, the hair is dark. When there is little melanin, the hair is blonde. Red hair occurs when a person has little melanin and lots of yellow-gold pigment.

The color of the eyes depends on the amount of melanin found in the color part. People with lots of melanin have dark eyes. Those with lesser amounts have light eyes—blue-eyed persons have a small amount of melanin.

As an exercise, instruct children to draw as many eye color differences as they can think of.

The children should be instructed to record the new information about themselves in their "Me Book" (found in Book One). If they have already done so, instruct them to check for accuracy. They may wish to add a section: New Discoveries About Me.

Figure 5

ACTIVITY FROM BOOK FIVE

My name is Mike Ching. I am an American.

My ancestors came from China long ago. China is a country in Asia.

For special holidays I sometimes wear this Chinese clothing.

Here's Mike in special Chinese clothes.

Figure 5 (cont'd)

ACTIVITY FROM BOOK FIVE

HI! Here I am again. Now I'm wearing my favorite everyday clothes.

I like to eat won ton. It is a dumpling filled with meat. It can be boiled or fried. My great-grandparents brought a recipe from China long ago.

Dr. Tsung Dao Lee is a famous Chinese American. He is a scientist who won the Nobel Prize in Physics in 1957.

Dr. Chien-Shiung Wu is a famous Chinese American Woman. She is a physics professor at Columbia University.

Here's Mike in his everyday clothes.

Book Five

The 28 activities in this section are based on Objective 8 and focus on teaching children that several cultures compose this country, each unique in its own right and that all contribute to make life richer for everyone. Activity 270 provides a coloring book which portrays children dressed in clothes depicting their heritage, with short accompanying passages describing ethnic foods and famous people of each ethnic group. Figure 5 is an example from this coloring book.

COMMUNITY INVOLVEMENT

Involvement in the program by the local community, particularly by parents who have children participating in the program, is highly encouraged. Through such participation, any conflict between values taught in the home and those propounded by the program can be more readily resolved.

COSTS AND FUNDING SOURCE

Financial resources needed to implement and operate the program are minimal. Use of ordinary school facilities and resources is all that is generally needed. The majority of the activities are simple paper-and-pencil or cognitive tasks, and no special training is required of instructors to operate the program. Cost of the handbooks is $12.50.

PROGRAM EFFECTIVENESS

In the appendices of the handbook are the results of an evaluation by both teachers and parents when the activities were pilot tested during the 1973-74 school year. In general, the 20 teachers were very enthusiastic and accepting of the program. Of the 289 parents who had students in the program, 130 responded to a questionnaire evaluating the program. Ninety-five parents, or 73%, indicated they would like to see their child involved in the project again.

Another type of evaluation of the program's success comes from Marlene Cummings, who states,

> A very beautiful and significant reward from working with this project is to see children with hearing aids plainly drawing in the hearing aids when making self-portraits because they know it is important to include everything that is a part of them. Or, seeing black children in classes of all white children carefully blend colors of brown and black paint until their skin color is nearly matched for drawings of self. For a child from a single parent family to draw a picture of that family without being tempted to add another parent means that classroom teachers have taught, very carefully, that differences are an expected and natural part of the human experience.

SUGGESTIONS FOR REPLICATION

Most, if not all, elementary teachers face the problem of seeing certain children ostracized by their peers because they are perceived to be different in one way or another. Teachers also see children develop stereotypes about various groups of people (including groups they themselves are part of) based on erroneous information obtained through watching television or overhearing conversations. Use of various activities in this program can help to eradicate such misperceptions and help children see that because others are different from themselves, they need not be viewed as odd or threatening.

Parents are a vital element in a successful program; only with their support will children take the concepts of this program seriously. The *Parent Guide* should be distributed to all involved parents, or, better still, used as a basis for parent discussion groups or workshops.

The handbooks are self-explanatory and do not require special training on the part of the instructors. It is important, however, that teachers be aware of their own biases and guard against behaviors which may inadvertently display bias. (See the *Staff Awareness Program* elsewhere in this manual for a staff development program on this topic.)

The handbooks were developed to fit easily into the existing school program. So that teachers may achieve the goals of the program within the framework of their already rigorous schedules, activities are designed to be usable independently and at the teacher's own pace. A few activities specify resources of the Madison schools; the Madison staff can suggest substitutions or possible availability of these resources.

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New York, New York 10016

THE MESA PROJECT

Berkeley, California

Many projects intended to benefit minority groups focus on helping below-average students raise their achievement. The MESA Project has a different purpose: to help minority students who are academically above average to succeed and excel in advanced courses and to explore a variety of professional careers.

MESA stands for Mathematics, Engineering, and Science Achievement. It combines the resources of local schools, universities, businesses, industrial firms, and professional societies to expand the career options of minority youth. MESA offers talented 9th through 12th grade minority students counseling, tutoring, enrichment activities, and various incentives to succeed in math and science-related courses and to enter professional training. MESA activities are normally conducted outside the classroom and during non-class time over one or more school years.

GOALS OF THE PROGRAM

MESA encourages and supports minority students interested in mathematics and science for the purposes of: (1) promoting their awareness of math- and science-related careers (including business careers) and of the skills needed to enter them; (2) providing motivational experiences to help them grow in academic skills and career aspirations; and (3) insuring adequate educational preparation for college enrollment and success in math, science, and engineering curricula. These goals reach beyond the simple "career awareness" level; the intent of MESA is to increase the actual numbers of minority group members in college preparatory courses, in professional training, and in math- and science-based careers.

TARGET POPULATION

The MESA program is designed for 9th through 12th grade minority students who have expressed an interest in math- and science-related careers and who are currently enrolled in a college preparatory mathematics course. MESA students come from minority groups that have historically been underrepresented in mathematics-based professions; Blacks, Mexican Americans, Puerto Rican Americans, and Native Americans. Fifty-four percent of MESA students to date have been women.

BACKGROUND AND DEVELOPMENT

Development of MESA began in 1968, when a group of university professors, secondary school teachers, students, and other professionals

became concerned about the small proportion of engineers (2.8%) who were from underrepresented minority groups, although these groups constituted 15% of the population. After recognizing that preparation for these science-related careers should begin in the early years of high school, MESA's founders decided to design a program that would encourage minority group students to take the college preparatory courses they would need to major in mathematics, business, engineering, and the physical sciences at the university level. As a result, the MESA program began in 1970 with 25 students at Oakland (California) Technical High School. Since then, MESA has expanded to include 16 centers with more than 2,000 students at 60 California secondary schools. By 1982, MESA expects to reach 3,000 minority students yearly at schools throughout the state.

STAFFING AND MANAGEMENT

MESA is headquartered at the University of California at Berkeley, with a staff of three. These people are responsible for collecting instructional materials; facilitating statewide information gathering and exchange; building program support through conferences, workshops, and information dissemination; and overall program planning, development, and evaluation.

MESA Centers are located at universities with strong engineering and physical science departments. Each of the 16 Centers now in operation works with two to seven senior high schools and serves from 40 to 250 students. Some of the Centers also identify and provide services to qualified junior high school minority students.

The individuals involved with each Center include an advisory board, a project director, a coordinator, and an advisor at each high school. The Project Director is a university faculty member who assumes responsibility for the operation of a Center, organizes the advisory board, and establishes relationships with local engineering and science-oriented companies, professional associations, and community organizations.

The Coordinator is the day-to-day manager of the MESA Center. He or she works closely with the MESA advisors at each secondary school and with the industry, education, and community groups who contribute resources to the program. The Coordinator also arranges for tutoring, counseling, field trips, and other MESA activities.

The Advisor is usually a high school mathematics or science teacher given release time to select the students who will participate in MESA and to direct all activities at the high school. The Advisor maintains records of the students' academic performance, accompanies them on field trips, and assists in career counseling. Each Advisor works with from 20 to 75 students. Advisors are provided with a *Handbook* outlining Advisor duties, effective approaches, and tentative schedules for each activity.

The Advisory Board is composed of representatives from secondary schools, universities, industry, professional organizations, minority organizations, and other community groups.

ACTIVITIES, MATERIALS, AND FACILITIES

Each student entering MESA receives a *Student Handbook* which describes the program, discusses what is expected of participants, and offers hints on study habits, test taking, and resume writing.

MESA provides participating students with five major activities that are designed to enrich their regular education programs.

THE TUTORING PROGRAM. Many minority students lack the background needed to develop the complex skills required in advanced mathematics and science courses. A special tutoring program is provided to assist MESA students in acquiring the needed skills and perspectives for these courses. Professional engineers, scientists, college students, and peers tutor MESA students to help them to improve their understanding of mathematical and scientific concepts and to maintain high grade point averages. Minority tutors are especially sought after to serve as role models; those with knowledge of various scientific career fields are also desired. A continuous recruiting effort is under way at both the state and Center levels to enlarge the pool of tutors. Some tutors are volunteers; some are paid through various sources, including the federally-funded Work Study Program.

To remove any stigma that might be attached to attendance at tutoring sessions, regular attendance is required of all students (once a week or more). Tutoring sessions are scheduled before school, at lunch, and after school, with care taken to avoid conflicts with popular school activities, if possible. The MESA Coordinator is in charge of recruiting tutors. Senior MESA students with good grades may be paid for tutoring, or may help in supervising the program and maintaining records. Though most tutoring is one-to-one, study teams or groups for special projects are occasionally organized; the number of students per tutor rarely exceeds five. Tutoring is based on the materials with which students are working in class; special materials are not normally used.

ACADEMIC, UNIVERSITY, AND CAREER INFORMATION AND COUNSELING. Special counseling aids the MESA student in the selection of a high school program, in the choice of a university, and in the completion of university application forms and resumes. Speakers from a variety of engineering and technical fields provide practical information about career opportunities in their areas of specialty.

Counseling is done by staffs of both the high school and the Center. The MESA Advisors at each school regularly review the programs of their students to assure that they are selecting courses which will prepare them for college work in mathematics, science, and engineering. The Advisors also monitor student performance. Counseling is also arranged at the Centers to help students prepare for college enrollment. Admissions officers from local colleges meet with students to discuss entrance testing, admissions, and financial aid applications, as well as students' individual needs and aspirations.

MESA also collaborates with the Minority Engineering Education Effort (ME^3), which produces motivational materials for minority students interested in engineering. ME^3 also gathers information on minority students for interested employers and educational institutions and informs students of special scholarships, programs, and other opportunities.

FIELD TRIPS. Actual contact with individuals working in engineering, mathematics, and science fields is provided through field trips to local industrial plants, research centers, engineering firms, university facilities, and other sites where technical professionals are employed. This direct contact gives the students an awareness of the kinds of professions they may enter and an opportunity to talk directly with young minority group engineers and scientists in their work environments. Twenty-four major California companies have made their sites available for field trips, as well as a number of government installations and university laboratories.

The Center Coordinators are in charge of making field trip arrangements, which usually involve students from all schools served by the Center. Field trips are planned with input from Advisors on student interests. Field trips are usually kept to no more than half a day, with student participation in at least one of the activities at the site. Once a year, each MESA student visits the university involved with his or her Center to help acquaint the students with the academic side of engineering.

SCHOLARSHIP AWARDS AND OTHER INCENTIVES. Incentive scholarships of $100 to $250 can be awarded each report period to students who achieve a 3.3 grade average or better in college prep mathematics, physical sciences, and English courses. A student who maintains a 3.3 average for an entire school year can thus receive scholarship money for the next year's courses. This aspect of the program has proven to be a strong incentive for MESA students, many of whom have particularly difficult financial pressures.

Incentives are also used to keep younger students participating in the program throughout high school. MESA T-shirts MESA binders, calculators, and certificates of completion are used to reward long-term participation.

SUMMER ENRICHMENT AND EMPLOYMENT PROGRAMS. Students are encouraged to participate in enrichment programs in mathematics and science during the summers following grades 9 through 11. Summer job positions in industry, engineering laboratories, and the like are available to some MESA students after their junior and senior years in high school. Offerings vary from Center to Center. They include activities such as constructing solar energy collectors, preparing for college entrance exams, learning the fundamentals of bridge design, and studying algebra and trigonometry. Both classes and relevant work experience are arranged, depending on student needs and interests. Summer job placements are usually supported by the firm hiring the student, and "make-work" jobs are avoided.

SCHEDULE

MESA programs operate throughout the entire year. Consequently, planning is a constant process, but is heaviest at the beginning of each semester and the summer. Field trips and speakers are scheduled by the Coordinator at the beginning of each semester. Tutoring sessions are held several times each week. Tutors are recruited and scheduled by the Coordinator, while room arrangements are made by the Advisor at each school. Summer job placements are sought by the Coordinator.

COMMUNITY INVOLVEMENT

Tutors and speakers are constantly recruited to work with students on a volunteer basis. Most are engineers, scientists, or college students entering a scientific or technical field. Some college students tutor as part of the Work-Study Program at their institutions; in these cases the Center pays 20% of the student's salary. Tutors devote two to four hours per week working with one or more students. Speakers are usually involved with the program no more than once per semester. Blacks, Mexican Americans, Puerto Ricans, and native Americans are particularly sought as tutors and speakers, but any volunteer with the appropriate skills is welcome. The MESA program has been fortunate to have the wholehearted and energetic cooperation of many members of minority professional science and mathematics societies, some of whom are themselves MESA graduates.

Parent involvement in MESA activities is encouraged, and events are held throughout the year which parents are invited to attend, including an annual recognition banquet. Parent or guardian permisson is required before a student enters the MESA program.

COSTS AND FUNDING SOURCE

The average cost per student of an operating MESA program is $300 to $350. These costs primarily support the Coordinators at the Centers, the summer enrichment programs, reimbursement for MESA students who tutor other participants, partial (20%) reimbursement for college students who tutor as part of their Work-Study Programs, and the various types of incentives for performance and participation. The operating MESA Centers have not needed much local district funding; however, support from foundations such as the William and Flora Hewlett and Alfred P. Sloan Foundations, plus grants from industry, have provided the bulk of funds. Recently the University of California and the California State University and College System have also allotted funds to support MESA, primarily for Center personnel and facilities.

PROGRAM EFFECTIVENESS

The MESA program has received enthusiastic support from schools, students, and the business and professional communities. New Centers are

opened each year, and existing ones serve more students. MESA's Board of Directors includes prominent educators representing both secondary schools and universities and representatives from industries such as Bechtel Corporation, the Jet Propulsion Laboratory, and Northrop Corporation. Center coordinators come from major scientific and engineering firms throughout the state. MESA has received public endorsements from executives of many of these firms and maintains contact with professional societies such as the Society of Hispanic Professional Engineers, the Los Angeles Council of Black Professional Engineers, and the Mexican American Engineering Society.

More than 80% of MESA students have gone on to college, and more than two-thirds of these have chosen majors in technical fields. In addition, MESA students have won an above-average number of scholarships. At one high school, MESA students won over 50% of all scholarships awarded to graduating students, although they constituted only 5% of the class.

SUGGESTIONS FOR REPLICATION

Though the MESA program is university based, this is not an absolute necessity for replication. It *is* desirable for several schools to coordinate efforts in planning activities such as MESA offers in order to increase efficiency and staff motivation. It is also desirable to establish contact with university faculty members in science and engineering, as well as with local business and industry, and with professional societies. An adequate MESA-like program probably cannot be operated without at least one full-time professional staff member serving as Coordinator and at least one release time period for the Advisor at each school. As stated earlier, funding from foundations and local industry may be available for the non-school components.

Materials available from MESA would be very helpful in instituting a program like this. The *Advisor's Handbook* discusses all facets of the MESA program, including tentative schedules and many of the forms used in recruiting, selecting, and retaining students. The Coordinator's general role is also described in the handbook. But, since this role involves knowledge of resources and constant recruitment efforts, the Coordinator's functions and the requirements for the position will depend heavily on the local situation.

MESA-like activities need not, in theory, be limited to science and mathematics students. Similar programs have also included business and economics components. Others have included strong informational components for parents of minority students and in-service education for school staffs.

MESA materials themselves are designed to promote scientific and mathematical skill building. They have not been focused on the issues of why minorities have been underrepresented in science- and math-based careers and what the appropriate roles of minority professonals in minority communities might be. Such a component could prove extremely valuable

in helping minority students develop their own perceptions of a proper social context for their efforts.

A number of organizations have developed specific curricular and motivational materials for minorities in science and mathematics. The MESA program staff can suggest contacts.

CONTACT PERSON AND ADDRESS

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NATIVE AMERICAN CAREER EDUCATION PROGRAM

San Francisco, California

We shall learn all these devices
the white man has.
We shall handle his tools
for ourselves.
We shall master his machinery,
his inventions,
his skills,
his medicine,
his planning;
But we'll retain our beauty
and still be Indian.

It is in the spirit of this poem by David Martin Nez* that the "Native American Career Education Program" was created by the Far West Laboratory for Educational Research and Development. This comprehensive career education program was designed for the purpose of conveying to Native American students an awareness of the world of work and the broad spectrum of career opportunities available to them. The information and learning experiences derived from the program can be used by the students as a springboard from which they can begin to improve their economic and social status within both their own and the dominant culture. The program is intended to be integrated into the curriculum of schools that serve Native American students. Program materials are designed primarily for 7th through 9th graders, and consist of 12 instructional units composed of various activities. Five of the units address career awareness concepts; three cover orientation to selected career areas; and four deal with career exploration. Each unit requires between two and six weeks of class time. Training workshop materials and an implementation guide are also available to assist school staffs and community members to develop a career education program for Native American students.

GOALS OF THE PROGRAM

The goal of the program is to provide students with information about the various aspects involved in selecting a career suitable to their personal interests, abilities, and aptitudes and so that they will be able to make effective use of career preparation opportunities. The program is also a course in personal development, human relations, and self-awareness.

*From the poem "New Way, Old Way" by David Martin Nez, former student at the Institute of American Indian Arts, Santa Fe, New Mexico, a Bureau of Indian Affairs school. (Copyright 1969. Used by permission of the author.)

TARGET POPULATION

The program is focused on 7th, 8th, and 9th grade Native American students. It has been used in urban, rural, and semi-rural settings. Some of the Native American tribes with which the program has been used are Navajo, Hoopa, Paiute, and Hopi. The materials use illustrations and examples from a variety of tribes and culture areas, and include suggestions on how to adapt to local cultural and socioeconomic conditions. Awareness, orientation, and exploration are the career education components emphasized.

BACKGROUND AND DEVELOPMENT

Jobless rates and mean family incomes for Native Americans are among the worst in the U.S. Even jobs on many reservations are filled by non-Native Americans simply because tribal members lack the basic training to qualify for such jobs. Although vocational training programs exist for adults and high school students, little has been done in the area of career education for younger people to prepare them to enter such programs. In addition, the relatively few Native American career education programs in existence are either designed specifically for adults or post-secondary students, for specific tribes, or for a single career area, such as lumbering.

Recognizing this shortcoming, as well as the limitations inherent in those programs already in operation, the Far West Laboratory, under a grant from the Bureau of Occupational and Adult Education of the U.S. Office of Education, undertook the task of developing the present program. Following a survey of existing career education programs and a needs assessment, a professional staff of Native and non-Native Americans at the Far West Laboratory developed and tested the materials. Assistance in program development was provided by an Indian Education Advisory Committee. This committee reviewed materials, provided cultural validation, and gave advice on dissemination. Native American tribes represented on this committee were Cocopa, Klamath/Karok, Mandan/Hidatsa, Navajo, Pima, Delaware, Paiute, Rosebud Sioux, Hualapai, and Menominee. The materials were tested during 1975-76 by over 500 students; appropriate modifications were made as a result of this testing.

In 1978-79, the Office of Career Education funded a project to help four demonstration sites implement career education programs using this approach. This project worked with Indian centers serving students in urban and small town settings, a reservation school, and an Indian boarding school and developed a staff/community training workshop, a *Coordinator's Manual*, a *Participant's Handbook*, and an *Implementation Guide*.

STAFFING AND MANAGEMENT

The program, as developed by the Far West Laboratory, is intended to be

integrated into existing academic curricula. Its infusion, operation, and administration are left to the initiative of local administrators and teachers. Teachers should be familiar with basic content and instructional methods of career education and how to present materials using a bicultural approach, while adapting materials to students' needs. Furthermore, community acceptance and involvement in the program should be actively sought in order to facilitate success.

FACILITIES AND MATERIALS

Utilizing 12 culturally relevant instructional units in career awareness, orientation, and exploration, the program is geared towards letting the learner act as planner, decision-maker, and self-evaluator. It is hoped that this approach will increase learner motivation by allowing him or her to pursue genuine interests and concerns, and will also increase learner self-reliance and initiative.

The content domains are knowledge and mastery of self, social development, and avocational (leisure) development. Student activities include reading, responding to questions, playing educational games, and completing research exercises. Audio-visual materials, guest speakers, craft workshops, group projects, and field trips are other aids used in teaching. Staff act primarily as learning coordinators, helping students to explore the activities and work individually or in small groups to accomplish objectives.

The program makes extensive use of examples from Native American culture to illustrate its concepts. For example, in the instructional unit, "From Idea to Product," the steps involved in building a cradleboard are described and analyzed, and then the equivalent steps in making a playpen, from lumbering to sales, are similarly discussed. This provides a culturally relevant approach to economic education. The program also utilizes the 15 USOE career clusters as a reference point in describing careers.

ACTIVITIES AND SCHEDULE

The program is designed to be implemented in a variety of configurations in grades seven through nine. The units can be infused into subject classes, or serve as the basis for a career education elective. The *Curriculum Guide* booklet discusses traditional Native American teaching methods, the Native American learner, the problem of language, work groups, and other aspects of the Native American student in the program, as well as more general aspects of career education implementation. The training workshop introduces educational staff and community people to basic career education concepts, skills, and the program approach, and gives them practice in program development. The implementation guide offers suggestions for the development of a comprehensive career education program incorporating the 12 units as well as other important types of career education activities.

The program's 12 units are divided into the levels as follows:

Awareness Units

COOPERATION. Through use of such activities as games and readings, this section prepares the students for the ensuing units by teaching the importance of cooperative group interaction and team effort in school and on the job. Subject areas covered are social development and health. This unit requires between 15 and 20 class hours to complete.

PART OF THE WHOLE WORLD. Working in small groups, students compile a display depicting the valuable contributions made by various cultural groups to society. Subject areas covered are social science and art. This unit requires 25 to 30 class hours.

FROM IDEA TO PRODUCT. Students are shown the necessary steps in developing a product by using a simple charting technique. Subject areas covered are economics and industrial development. Between 14 and 20 class hours are required to complete the unit.

THE COMMUNITY. Students learn the economic structure of various communities, including their own, and the impact of establishing a new industry in a community. Subject areas covered are economics, history, and government. This unit requires between 15 and 25 class hours.

THE COMMUNITY IN TRANSITION. By following the social and economic progression of an imaginary tribe, students learn the changes that occur in lifestyles, roles, and careers. Subject areas covered are history, geography, mathematics, and transportation. Between 15 and 30 class hours are needed to cover this unit.

Orientation Units

PUTTING YOUR MONEY TO WORK. Through group activities dealing with check-writing and budgeting, students learn how to manage personal as well as small business financial matters, and are also introduced to financial careers. Topics covered are mathematics and business. Time required is 15 to 25 hours.

LIVING WITH THE LAND. Students learn basic ecological concepts and wise management of available natural resources relative to their traditional values and are introduced to careers in this area. Subject areas covered are life sciences and ecology. This unit requires between 15 and 30 class hours.

WORKING FOR THE PEOPLE. Students learn about the structures of various tribal governments and of the levels of the federal government, and are introduced to public service careers. Subject areas covered are government and law. Required classtime is 15 to 30 hours.

Exploration Units

PLANNING. By utilizing a five-step process, students learn the importance of planning various activities. Subject areas covered are composition and mathematics. Time required is 10 to 15 class hours.

PUTTING IT ALL TOGETHER. Students learn the 15 basic career clusters and determine their appropriateness for jobs in each based on their interests and abilities. Subject areas covered are social development, economics, and crafts. Between 15 and 25 class hours are required.

GETTING READY. Through such activities as studying newspaper want ads, students learn about the education and skill requirements of various jobs. Subject areas covered are English and mathematics. This unit requires between 10 and 20 class hours.

THE CAREER FAIR. Utilizing the information acquired from previous units, students research the job they are interested in and provide this information to others. Subject areas covered are English and crafts. Required class time is 10 to 15 hours.

Most activities are conducted in small groups. Use of audio-visual and other resources is recommended but not required. Optional activities are available with their use dependent upon student needs and time constraints. Each unit has a teacher's guide with objectives, unit descriptions, time estimates, a materials list, teaching suggestions, and a unit test. The materials are written at a fourth to fifth grade reading level.

COMMUNITY INVOLVEMENT

In implementing this program it is vital that schools obtain the support of local communities, particularly when the school staff is non-Native American. Community members and parents should be encouraged to support the program by participating as guest speakers, by opening their businesses to field trips, and possibly even by developing short-term work programs such as summer jobs so that students gain actual experience in the world of work and can apply the competencies learned throughout the course of the program. Such involvement of adults, especially Native Americans, would contribute much to the program by adding credibility and meaningfulness to the materials.

COSTS

The entire set of program materials costs $84. No special equipment that would require additional expenditures is needed. The *Implementation Guide* and training workshop are recommended to prepare staff and community members to use the units and develop a career education program. Once implemented into the school curriculum, program operation should impose no increased financial burden on the school district.

PROGRAM EFFECTIVENESS

Rigorous pilot testing on a broad range of students provided the data to make modifications necessary to ensure the effectiveness of the materials.

Furthermore, suggestions from an all-Native American advisory panel ensured cultural validity of the materials. Based on this developmental process, it appears that the program would be highly effective. A final report of the project is available which details the impact of the program on students during pilot testing.

The training workshop was tested at the four demonstration sites and reviewed by Indian and career educators before being revised.

SUGGESTIONS FOR REPLICATION

The Native American Career Education Program has been developed to a point of great practical value for junior and senior high school students. Once the program becomes part of the curriculum it can easily be maintained or adapted as a minicourse offered on a credit/no credit basis.

The greatest significance of this program is its potential for serving as a basis for development of comprehensive career education programs that are responsive to the cultural and economic needs of all Native American tribes and communities. By modifying the activities, the program can be extended to primary and post-secondary school populations. In modifying and adapting the program, three key factors should be preserved: recognizing the individual learner's needs and interests, insuring the cultural relevance of materials used, and using appropriate teaching methods such as small groups.

CONTACT PERSON AND ADDRESS

Diana P. Studebaker
Far West Laboratory for Educational Research and Development
1855 Folsom Street
San Francisco, California 94103
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TO ORDER MATERIALS:

National Teaching Systems, Inc.
1137 Broadway
Seaside, California 93955

Complete Set (12 books) $84. A copy of *Native American Career Education, A Curriculum Guide* is included with purchase of the complete set.

NACE Staff/Community Training Workshop
Coordinator's Manual $6
Participant's Handbook $6

Implementing Career Education Programs for Native American Students $6

The units and a project final report are available through the Educational Resource Information Centers (ERIC) system. The training workshop materials and implementation guide should also be available soon. Check with your local education office for information. ERIC numbers for these documents are ED 147593 and ED 147607.

STAFF AWARENESS: RACIAL, SOCIOECONOMIC, SEX STEREOTYPES LIMIT CAREER POTENTIAL

Columbus, Ohio

Whose attitudes are the most critical in diminishing the effects of discrimination and stereotyping upon students' career aspirations? Those of parents, school staff, and friends and that amorphous entity called "societal expectations" can all play an important part. But within the context of education, school staff members, especially teachers and counselors, clearly have great impact on students. They can also have the most potential for positive impact if they can be made aware of the harm resulting from discrimination and stereotyping.

The program "Staff Awareness: Racial, Socioeconomic, Sex Stereotypes Limit Career Potential" is designed to increase such staff awareness. It is a self-contained package including materials for a 10-11 hour inservice training program for teachers of grades 3-8. Also included are instruments for assessing and interpreting the extent and effects of career stereotyping in local settings, an administrator's guide, and the rationale and research base upon which the materials are founded.

GOALS OF THE PROGRAM

The Staff Awareness Program is designed to provide baseline information about occupational stereotypes, teacher expectations, student aspirations, and teacher/student interactions. It is intended to help school staff become aware of the harmful effects of expectations based on stereotyped perceptions and of how such expectations may limit the career potential of students. The program also helps school staff to identify the subtle behaviors through which they convey their high or low expectations to students, select behaviors they wish to change, and build support groups to reinforce and expand behavioral changes.

TARGET POPULATION

The immediate audience for the materials consists of teachers, counselors, administrators, aides, and other school staff who regularly work with students. The ultimate targets of the materials, however, are the students themselves—the socioeconomically disadvantaged, ethnic minorities, women, the handicapped, and also the "favored" majority students, who may suffer as much from the burden of stereotyped expectations as the others.

This program was developed for school staff involved in ongoing career education programs in grades 3-8, but K-2 teachers could probably benefit from the inservice workshop. Though no high school staff were included in the developmental work, they could probably use the program with little modification.

BACKGROUND AND DEVELOPMENT

This program was developed to address a serious problem in the implementation of the concepts of career education: the possibility that the concepts would be used, either consciously or unconsciously, to perpetuate stereotyping in career choice in the name of "realism." Minority groups saw this risk almost as soon as career education was conceived. In 1972, the National Urban Leage discussed "...career education and its potential threat to the educational options open to America's Black and urban poor..." in its first Education Policy Information Center bulletin.

In order to solve this problem, one of the program's principal developers, Judith Morris, did a research study on teachers and their disadvantaged students. She developed instruments to measure student and teacher perceptions and conducted a needs assessment in a local school district. Workshop materials were then designed to help increase teacher sensitivity to stereotyping and its effects. The program follows the approach of her study: guidelines are given for assessing local needs and conducting the workshop to address those needs. Evaluation and follow-up approaches are also suggested.

STRUCTURE OF THE PROGRAM

The manual describing the program is divided into four sections:

Research Base and Rationale. This section discusses the background and rationale for the materials, reviews other relevant literature, and presents the outcomes of the initial study done using the materials.

Administrators' Guide. An overview of the program is provided, including the needs assessment, the in-service session, and the followup activities. The guide lists the major activities, resource needs, scheduling alternatives for the in-service session, and a sample budget.

Guide for a Local Study. This section deals with the assessment of needs for in-service training in regard to stereotyping. It includes the data collection instruments for teachers and students, steps in conducting the study, and suggestions on analyzing and presenting the outcome data. Data from the needs assessment are used in the workshop and also can be used to help select participants, focus the workshop content, and provide a baseline for measuring change.

Staff Training. The training materials are divided into six parts: introduction, team building, identifying personal perceptions, broadening the data base (with suggested resource materials), planning for implementation, and

evaluation. A detailed chart also outlines the workshop contents, strategies, resources, time estimates, and expected outcomes.

PROGRAM ACTIVITIES

The sequence of major activities contained in this program is as follows:

- Collection of data to identify occupational stereotypes, aspirations, and teacher-student interaction.
- In-service workshops for staff.
- Classroom implementation of nonbiased behaviors identified in the workshop.
- The evaluation and modification of the Awareness Program based on participant feedback.

NEEDS ASSESSMENT. The Guide for Local Study describes procedures for conducting a needs assessment. The collection of local data serves two purposes: (1) to assess the need for the Staff Awareness Program in a specific educational setting, and (2) to provide specific local data to be used as part of the content of the in-service program.

Data are collected from students and their teachers. Students provide demographic information, career aspiration information, perceptions of their interaction with the teacher, and other perceptions of themselves as students. Staff members provide demographic information, career expectations for a sample of eight to ten students, perceptions of their interaction with each student in the sample, and perceptions of student ability.

The data can be analyzed to identify stereotypes and interaction patterns related to socioeconomic status, sex, and ethnic group that may limit the students' occupational and career potential and choices. The core of the needs assessment is the comparison of teacher perceptions about a student with the student's own self-perception. Thus, questions on most of the questionnaire are parallel for teachers and students; for example, and the teacher and student are asked:

Teacher Questions	*Student Questions*
How do you rate this student in school ability:	Compare your ability in school with other children your age. Are you:
Far above average	Much better
Above average	Better
Slightly above average	A little better
Average	About the same
Slightly below average	Worse
Below average	A little worse
Far below average	Much worse
Uncertain	Uncertain

Teacher Questions	*Student Questions*
How often do you have eye contact with this student which is supportive (e.g., "Good," I like you.")	How often does the teacher look at you as though he/she were pleased or happy with you?
Very seldom	Almost never
Seldom	Not often
Sometimes	Sometimes
Often	Many times
Very often	Almost all the time
Uncertain	Uncertain

Consistent differences between teacher and student responses show a difference in expectations which may lead to decreased student motivation and achievement.

IN-SERVICE WORKSHOPS. Workshop activities are designed to help teachers identify their own ethnic, socioeconomic, and sex group stereotypes and modify consequent verbal and nonverbal behaviors that communicate these stereotypes to children and result in a restricted view of the career and life style options open to them. At the end of the 10-11 hours of in-service each workshop participant has a planned list of 10 behaviors to implement in the classroom. The in-service program consists of six components. These are:

Reference Group Attitude Game. In this activity teachers individually and then in groups indicate their agreement with various arbitrary statements such as: "Indian children are much more sullen than Whites," or "If you want your class controlled during your absence, put a Black girl in charge." These statements then form the basis of group discussions.

Team Building Skills in which teachers learn the various ways in which feelings and expectations can be communicated to others.

Identifying Personal Perceptions. Here, teachers explore their personal perceptions regarding their expectations for various ethnic, socioeconomic, and sex groups. Teachers write stories about five simulated, ambiguous pictures involving students, and their stories are analyzed.

Broadening the Data Base for Planning. Here use is made of the needs assessment information. The summary data gathered from teachers and students in the district is presented. Specific stereotypes and the behaviors that reinforce them in the classroom are identified.

Planning for Implementation. In this portion of the workshop, each teacher identifies 10 behaviors to work on in the classroom.

Evaluation and Modification. After three weeks of implementation, the coordinator arranges to meet with the teachers to discuss means of continuing and expanding the implementation of classroom behaviors based

upon stereotypes that limit student potential. The same behavior checklists and feedback mechanisms can be used to expand the program into a continuing effort. The program can easily become an annual, integral part of the instructional system.

STAFFING, MANAGEMENT, AND SCHEDULE

The *Administrator's Guide* specified five groups of people who should be involved in conducting the needs assessment and the workshop: a coordinator of the overall program, a research specialist for data analysis, a workshop conductor, clerical support, and the participating teachers. Of course, a single person could assume more than one role.

Approximate time requirements are as follows:

Coordinator	35–37 hours
Research Specialist	4– 8 hours
Workshop Conductor	13–25 hours
Clerical Staff	20–25 hours
Teachers (each)	14–18 hours

The entire program process, from deciding to assess needs to completing the workshop, can be comfortably conducted in a four-month period. It is suggested that teacher team sessions to follow up on workshop implementation be conducted weekly for as long as the team wishes.

The workshop itself can be given in one day or divided into two sessions. Schedules for an evening plus full day plan or a two afternoon plan are given in the *Administrator's Guide*.

COSTS

Costs of the Staff Program will vary from site to site. Major cost items are for the personnel who conduct and participate in the program. A typical budget is:

Local Coordinator	Local District Rate (if not on staff)
Staff Inservice Time	Local District Rate
Clerical Support	$100.00
Materials & Supplies	$100.00
Data Coding & Analysis	$300.00

If meals for participants are included in the workshops, additional costs would be required. The cost of the *Program Manual* itself is $8.50.

SUGGESTIONS FOR REPLICATION

The Staff Awareness Program is easy to replicate. The Program Manual provides clear, step-by-step guidelines for conducting the entire program and contains nearly everything needed to do so.

The key to putting on an *effective* program is being sure that one's purpose matches that of the program. The emphasis of the Staff Awareness Program is on the individual teacher and his or her attitudes and behaviors.

Many activities involve teacher self-assessment, with the results providing content for small group discussions. Some information about the specific effects of certain behaviors is introduced during the workshop, but the primary purpose is teacher *self*-awareness. If staff development needs are more in the area of information than awareness (for example, if teachers need ideas and activities concerning the history of particular ethnic groups for use in the classroom), then other programs would probably be more suitable.

This is not to say that this program is a "primer." Self-awareness may be just as gradual and developmental a process as knowledge acquisition, and many people have not explored their own attitudes and behaviors in a systematic way. Moreover, some information presented in the program may prove enlightening even to teachers who feel they fully understand prejudice. Robert Rosenthal's article, "The Pygmalion Effect Lives," included in the training materials, describes his and Jacobson's mid-1960's study and discusses results of studies conducted since then. The specific factors he cites as important in teacher-student interactions are very interesting and not always obvious. For instance, teachers who expect and receive improved performance from certain students tend to rate them as also improved in overall adjustment, ability to display affection, and autonomy. But if a student who is *not* expected to perform well does so, teachers tend to rate that student *lower* than before in adjustment, affection, and autonomy.

Other strong points of the program are its focus on local needs identified through a formal needs assessment, on specific alterable teacher behaviors, and on team followup and reinforcement after the workshop.

CONTACT AND ADDRESS:

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Order by document number S10: *Staff Awareness: Racial, Socioeconomic, Sex Stereotypes Limit Career Potential.*

HEALTH CAREERS AND SCIENCE ACTION LEARNING

Minneapolis, Minnesota

For many high school students, career exploration exists merely as an academic course. Through participation in such courses, it is hoped that students will be able to clarify their career interests and be better prepared to make sound decisions as they come to select a career. However, for many students who have developed tentative career interests, such courses appear inadequate and do not provide the opportunity to test their choices. The richness that actual experience can contribute to one's career development is lost.

In an effort to complement purely academic career exploration programs, the Health Careers and Science Action Learning Program was developed by the staff of Central High School in Minneapolis. This program provides high school students the opportunity to gain practical experience in selected health occupations. Through such experience, students gain valuable insight into their abilities and aptitudes and the appropriateness of their career choices. Students work alongside health professionals in a large hospital and also participate in a career exploration program. Their work in the hospital is supplemented by a science course that operates concurrently with their field placement. Program activities occupy the last three class periods of every afternoon over the course of a 12 week trimester.

GOALS OF THE PROGRAM

The overriding goal of the program is to reduce stereotyping with regard to race and sex in the area of health careers. Minority as well as majority students, are exposed to positive role models in the health professions and begin to realize that such careers are not restricted. Furthermore, the program is designed to assist Minneapolis youth with their vocational choices and educational planning should they desire to pursue a career in the health field. The following specific objectives have been developed: (1) students will be less accepting of occupational roles stereotyped by racial background; (2) students' awareness of career opportunities will increase; (3) inner-city students' self-concepts will grow in a positive direction; (4) inner-city students' level of motivation will be increased; (5) levels of achievement in science and communication skills will rise; (6) students' attitudes towards hospitals will become more positive; (7) minority youth will be exposed to positive role models often absent in the inner-city; (8) a new educational context will be developed which infuses aspects of health related work, skills, and experiences into a science curriculum; and (9) an opportunity will be provided for students to define more sharply their own career directions.

TARGET POPULATION

The program focuses on students enrolled at Central High School who are at least 15 years old and express an interest in pursuing a career in the health sciences. The program actively recruits minority students from various cultural heritages, particularly Blacks. However, it does not exclude any students who are interested in what the program has to offer. Participation is voluntary and students earn three units of academic credit.

BACKGROUND AND DEVELOPMENT

Like so many inner-city youth, Central High students do not have available to them the facilities or career exploration programs to allow them to pursue their occupational interests. With funding from the Office of Career Education, Arthur Serotoff of Central High School developed the present program to interest a heterogeneous group of students, primarily minorities, in the health field. As instructor/coordinator of the program, Serotoff says, "We show minority students that a career in the vast field of health is available to them if they want it. We pair minority students with minority health professionals whenever possible and bring in minority guest speakers to act as role models for the students. It is also good for the White students involved in the program to see qualified minority professionals—it's a fast method of breaking down stereotypes."

Starting the program required the involvement of staff with technical expertise in health occupations, career education staff, and staff who are familiar with teaching inner-city youth who often lack basic skills. In developing the curriculum for this program, all those involved had to work together closely to ensure that personnel with the technical know-how would be available when necessary, that classroom facilities as well as instructors for the biology class would be available, and that coordination of guest speakers and field trips would be assured.

The program is part of a national study of experiential learning programs sponsored by the Commission on Educational Issues, an affiliate of the National Association of Independent Schools. The Commission is joined in sponsorship by the National Association of Secondary School Principals, National Catholic Education Association, and National Association of Independent Schools. Participating institutions are the Minneapolis Public Schools, Central High School, and the Minneapolis Veterans Administration Hospital.

STAFFING AND MANAGEMENT

Arthur Serotoff, at Central High School is responsible for coordinating the efforts of the Chief of Voluntary Services at the Veterans Hospital, staff at the local community college biology laboratory, and several professional medical groups such as the National Student Medical Association (NSMA) which is an organization of minority medical students.

FACILITIES AND ACTIVITIES

The program utilizes the facilities of Central High School, the Minneapolis Veterans Administration Hospital, and the biology laboratory at Metro Community College where the students do experiments that relate directly to their hospital experiences.

All of the program activities act in concert to motivate the students to take on defined responsibilities and complete specific tasks. The major program activities include being part of a health care delivery team, conducting laboratory experiments, and interacting with health care professionals.

FIELD PLACEMENTS. Students are placed in a one-to-one working relationship with health professionals two afternoons a week. The students directly assist with on-going departmental operations. Placements are made in all phases of activity that occur at the hospital (e.g., EKG, nursing, research, physical therapy, medical secretarial, and dentistry).

SCIENCE LABORATORY. Students spend two afternoons a week in a science laboratory under the supervision of a biology instructor. Scientific principles are learned by conducting experiments in anatomy, chemistry, electricity, microbiology, animal behavior, and physics. These activities are coordinated with their field placement experiences.

SPECIAL PROGRAMS. Activities in this area involve field trips and seminars held by minority medical students; a health and science fair to demonstrate acquired skills; and participation in the Career Skills Assessment Program.

SCHEDULE

Following a screening by the program coordinator, biology teacher, and nurse educator, interested students are enrolled in the program. The program is limited to 30 students each trimester. The program requires that students meet daily for three hours. Two afternoons are spent working at the Minneapolis Veterans Administration Hospital with an assigned health professional such as a nurse, medical technician, radiologist, research scientist, or dental assistant. Two afternoons are spent in the biology laboratory at Metro Community College. The remaining afternoon is reserved for activities related to the Careers Exploration Experiences component of the program.

COMMUNITY INVOLVEMENT

The program relies heavily upon the support of the community. Community educational facilities are definitely required if the program is to achieve its goals. Support from community medical facilities and organizations ensures that program participants will gain valuable knowledge about the medical field. In turn, students provide the community with voluntary services which benefit both the medical and general population.

COSTS AND FUNDING SOURCE

In fiscal year 1979, the program operated under a grant of $85,000 from the Office of Career Education. The majority of the funds covered personnel costs for the project coordinator, biology instructor, nurse educator, and a part-time clerical assistant. Remaining funds went for school facilities, supplies, and an independent evaluation of the program. Some costs were defrayed by the high school such as operating costs of the bus used to transport students to the college and hospital. Students were not paid since the program operates during regular school hours. However, the possibility may exist for payment to participants should the program extend its recruitment to encompass students not currently enrolled in school. This would be comparable to a vocational training program for which funding from various organizations such as CETA could be obtained.

PROGRAM EFFECTIVENESS

An extensive program evaluation is currently under way. The evaluation procedure is essentially a pre- and post-test design measuring such factors as knowledge gained in the health field, attendance, attrition, and level of development in basic skills.

SUGGESTIONS FOR REPLICATION

Every major city has at least one hospital and various other health service organizations (such as the Red Cross) which are always in need of volunteers to assist in the delivery of their services. And every major city has a high school with students who are considering a career in the health field. The needs of health centers complement the needs of the students so the basis should exist for establishing such a program.

Key factors in establishing such a program are: (1) a realization that students are required to uphold a position of responsibility in an environment that may be threatening to them, considering the stereotypes common in hospitals—therefore, they should be given plenty of positive reinforcement for their efforts; and (2) assurance that students applying for the program are not excluded simply because they show low academic abilities—students who previously had problems with school often begin to achieve because the topics covered in the program are of interest to them. Further, students should become actively involved with health professionals, particularly with professionals from a minority background. This involvement provides students with positive role models and breaks down any stereotypes they may have about people who work in health related occupations; it may also encourage them to consider pursuing a health career.

Using the current program as a model, similar programs could be instituted to cover various other occupations such as engineering. Conceivably, a single program could be composed of several divisions each dealing with a different occupational area.

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THE COMMUNITY RESOURCE SERVICE

San Francisco, California

"Community participation" is a familiar phrase among career educators. Most of them readily see the value of community participation as a link between students and the world of work. But the staff of the Community Resource Service (CRS) of the San Francisco School Volunteers has a much broader purpose in mind for community participation: volunteers share not only their career experiences, but also their ethnic and cultural histories and values. Students thereby learn to appreciate the richness of their multicultural world and to realize that people of all races and both sexes fill many different career roles.

The Community Resource Service has a staff of five, working with a volunteer pool of 550. The main staff activities are: (1) to develop and update a directory of community resources; (2) to schedule classroom presentations by community volunteers at teacher request and to follow up on effectiveness of presentations; and (3) to provide materials, workshops, and community presenters to selected teachers participating in the CRS Career Education Model Teacher Program. These services are offered to the 32 participating schools at any of the K-12 levels.

GOALS OF THE PROGRAM

The principal goal of the Community Resource Service is to break down race, culture, and sex stereotyping among students so that their self awareness and career awareness may be expanded. In addition, it is hoped that students will become more motivated to set career goals. The program activities can mesh with any curriculum area.

TARGET POPULATION

The Community Resource Service arranges speakers for classrooms at any grade K-12. The San Francisco community is, of course, highly urbanized, with a diverse ethnic and socioeconomic makeup. The population is about 27 percent Black, 20 percent White, 19 percent Chinese, 15 percent Spanish surnamed, and 9 percent Filipino, with Japanese, Korean, Native American, and other non-white populations constituting the rest. Thirty-five percent of the students live in families with incomes below the poverty level. Almost half of the children come from homes in which English is not the primary language. The customs and languages of 22 cultures are represented in this school district. More than 8 percent of the students have

a physical or mental handicap. But because the Community Resource Service draws its volunteers from this diverse community, it can help to meet the wide-ranging needs of these different types of students.

BACKGROUND AND DEVELOPMENT

CRS began in 1974 as a service of the San Francisco School Volunteers. The parent organization has since branched out to provide other types of services to schools. At first CRS served simply as a connecting link between volunteers and teachers; but, as the staff learned what made for effective presentations and what did not, changes occurred. The staff found that one or two speakers per year had little impact on students, and that speakers whose topics were unrelated to the class curriculum often found students unprepared and unresponsive. CRS staff developed a directory of community speakers and began working with teachers to help them plan presentations that fit in effectively with their curricular activities and goals. Staff members also stressed the value of scheduling a developmental series of presentations over a semester or year.

In 1978, CRS was awarded a $50,000 grant from the Office of Career Education to expand its ideas. The result was the Career Education Model Teacher Program, which provided workshops and materials to selected teachers and gained their commitment to a carefully planned series of 12 speakers over the school year. In addition, CRS continued to provide its former services to all teachers in the 32 participating schools.

STAFFING AND MANAGEMENT

The core CRS staff consists of a full-time Project Director, a full-time Scheduling Supervisor, two part-time Recruitment Specialists, and a part-time secretary. A Site Coordinator is selected at each participating school to facilitate school/project communication.

The Project Director is in charge of overall administration and relations with schools. She makes contact with each principal in the fall to introduce the program, to identify teachers who might have an interest in the Career Education Model Teacher Program, to designate a school Site Coordinator for program liaison, and to plan orientation for faculty. Orientation consists of a slide presentation at a faculty meeting, announcement of program services by the principal or Site Coordinator, and memos to teachers.

The Scheduling Supervisor is in charge not only of arranging for appropriate volunteers at teacher request, but also for monitoring teacher interactions with the volunteer and collecting feedback after the presentation. The Recruitment Specialists maintain contact with previous volunteers and recruit new ones through contacts with corporations, professional organizations, community agencies, and referrals by staff members, and via the San Francisco School Volunteers Newsletter.

All staff members are involved in special programs such as career days,

and in conferences and workshops for the Model Teacher Program. Workshops may also involve local and state staff members as facilitators and presenters. The entire staff is also responsible for the annual updating of the directory of community resources.

THE CAREER EDUCATION MODEL TEACHER PROGRAM. This program, which operated for the first time in 1978-79, involves one teacher at each participating school. These teachers agree to attend at least three of four scheduled workshops on career education and career stereotyping. They must also agree to 12 class presentations by volunteers, one field trip, parent involvement, and use of classroom career education materials and activities. The class presentations are divided between five "multicultural speakers" and seven "career speakers," with nontraditional and minority career speakers used whenever possible.

Workshop activities for the first workshop included defining and setting priorities among career education goals and concepts, defining infusion, demonstrating infusion lesson plans, providing materials, and providing copies of the student pre-test. The second workshop focused on making participants aware of the prevalence and consequences of stereotyping and on developing ideas for classroom activities to combat stereotyping. The film, "Eye of the Storm," was used in this workshop to show the painful impacts of stereotyping. The final two workshops centered around continued development of ideas, called "kernels," which could be expanded into an area of related career education activities. The product of these workshops is a volume entitled *Kernels: Help Make Them Pop,* which expands career and multicultural education concepts into groups of related classroom topics and activities.

SCHOOL-WIDE SERVICES. Any teacher in the participating schools can request a volunteer speaker listed in the directory. To insure the effectiveness of presentations, the CRS staff asks that specific procedures be followed. Teachers are asked to file a request for a speaker one month in advance, call the volunteer one week before the presentation to outline the student and curriculum needs, insure classroom decorum, and return an evaluation form on the presentation. These procedures allow the CRS staff to maintain the effectiveness of the presentations.

Orientation is provided by CRS during the initial contact with the volunteer, with additional suggestions included in a letter enclosed with placement forms. The teacher's required phone call alerts the volunteer to the class level and relevant curriculum information. The CRS staff sends a thank you letter within a month of the program, and also provides transportation for volunteers when needed.

COMMUNITY INVOLVEMENT, ACTIVITIES, AND MATERIALS

The involvement of minority community members is the specific tool used to broaden this program from one strictly concerned with career

education into one designed to reduce stereotyping in career choice. Volunteers make several different types of presentations: on ethnic cultures, on careers, on new careers for men and women, and on the creative arts. Forty-four percent of these speakers in 1978/79 were minority group members or women in nontraditional roles. Typical presentations were:

Vietnamese Culture. A Vietnamese social worker discusses the customs and costumes of his country.
Affirmative Action Officer. An affirmative action officer from a Chinatown agency describes her job and talks about civil rights and affirmative action hiring for minority workers.
Health Careers. An employment representative from the University of California Medical Center talks about the variety of health careers and their different educational requirements. (Grades 4–12)
American Indian Culture. An American Indian Education project provides speakers on Native American traditions, history, and culture (crafts, legends, and life on a reservation).
Law: Supreme Court Judge. The first Black California Supreme Court Judge discusses his background and his career. (Limited availability, grades 10–12)
Public Relations. The public relations assistant director for KRON discusses her work in media relations and how she prepares program listings for the print media (newspapers, TV Guide, etc.)
Union/Musicians. A member of the Musicians Union discusses career possibilities in the field of professional music, followed by a question and answer session for interested music students. (High school only)
Asian Women. An instructor of Asian American Studies talks about Asian women. She has written children's stories on Japanese, Chinese, and Filipino women. Copies of these are available for teachers to share with students before the presentation.
Streetsweeper. A San Francisco streetsweeper discusses skills needed to qualify, on-the-job anecdotes, civil service requirements, and test forms.
Urban Planner. An urban planner discusses how he analyzes and predicts population growth patterns in California cities to guide future building plans.
Latino Food. A community college teacher explains how different Latino cultures selected their foods relative to their environment.
Children's Librarian. A children's librarian talks about his career.
Entomology. An entomologist explains use of pesticides and biocontrol factors to control insect population.
Modeling. Students from a modeling agency demonstrate techniques of modeling. They can offer a one-and-one-half hour clinic or a three visit series. (Secondary)

Black American Experience. A member of the NAACP discusses the experiences of Black Americans in the United States.

U.S. Postal Worker. A representative talks about career opportunities at the U.S. Postal Service. (Grades 4–12)

In addition to the presentations listed in the directory, volunteers participate in a number of special programs. These have included:

- Career Days scheduled at middle schools and high schools
- Mock interviews with personnel officers from corporations
- A series of programs developed to define a corporation and the varie-
- A series of programs on blindness for an elementary class. These included a visit to Guidedogs for the Blind, a program on braille, and presentations by blind workers talking about their non-stereotypical jobs
- Career awareness workshops for parents

COSTS AND FUNDING SOURCE

Costs are difficult to pin down, but the use of volunteers keeps costs far lower than in the average school program. CRS staff estimate that a fully developed program will require one full-time staff member per year for each 400 presentations. This estimate includes some staff time for consultation with teachers on the purpose and scope of presentations, but does not include time for workshops or materials development.

PROGRAM EFFECTIVENESS

A year-long evaluation was conducted on the effects of the Community Resource Service, focusing on teachers, students, and community volunteers. Some evaluation components involved only Model Teacher Program teachers and students, while others involved all CRS program participants.

Teachers in the Model Teacher Program rated the impact of the program on their students in terms of cultural and career information, improved self-concept, and awareness of the relevance of the school curriculum to the world of work. In each case, more than 80% of the teachers noted improvement in their students. Each model teacher rated the training workshops as effective or very effective.

Students were assessed on self-esteem and sex stereotypes. No appropriate instrument for measuring change in ethnic stereotyping in careers could be located. Test results were somewhat mixed, but generally showed a greater positive change with more program exposure. Results were better at the elementary than at the secondary level.

Reactions to the program from all students, teachers, and volunteers (not just those involved in the Model Teacher Program) were highly positive, ranging from 60% to 90% approval of various aspects of the presentations.

Complete results of the program evaluation can be obtained from the contact person.

SUGGESTIONS FOR REPLICATION

One of the best features of CRS for interested educators is its ease of replicability. Recruitment of community volunteers can begin on a very small scale, at the district, building, or even classroom level. Community members are often eager to share their experiences with students and to learn student perspectives in return.

To be most effective, the recruitment and use of community volunteers should be systemized. The goals of the program across grade levels must be articulated and the general areas of presentation topics must be built around these goals. Teachers must be encouraged to plan carefully a developmental series of presentations which will complement their curriculums. As the evaluation results show, students must receive fairly concentrated exposure (12 or more presentations per year) for any substantial impact to occur. These efforts are most feasible on a building- or district-wide basis.

It is important that criteria for recruiting and selecting volunteers be developed. For example, if lessening career stereotypes is a program goal, then minorities and people in roles nontraditional for their sex must be recruited.

It is also important that a management system be developed. Nothing spoils the satisfaction of students, teachers, and volunteers as much as a scheduling mixup or a class unprepared for the speaker's topic. Since the community participants will be volunteers, rewards such as an interested class and a follow-up thank-you note can make all the difference between a pleased speaker and one who will never return.

Suggestions for developing a program and some materials may be obtained from CRS. Availability of documents, such as *Kernels: Help Make Them Pop,* may be limited.

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ALASKA CAREERS EXPLORATION PROGRAM

Fairbanks, Alaska

Most career education programs and materials are focused on the wide variety of specialized careers common to urbanized areas in the U.S. This "lower 48" approach, however, is not very effective in Alaska, particularly in rural and Native Alaskan communities. The Alaska Careers Exploration Program was developed to depict Alaskans, both native and white, working in typically Alaskan jobs in both rural and urban settings. The program consists of a set of 11 videotapes of people at work, performing their work activities and discussing the characteristics and requirements of their jobs. Each videotape covers several careers within one USOE career cluster; 69 different jobs are presented from the 11 clusters most appropriate to Alaska. The videotape cassettes last from 15 to 30 minutes each, and require 3/4 inch playback units and TV monitors for viewing.

GOALS OF THE PROGRAM

The Alaska Careers Exploration Program has two goals: (1) to present realistic information on typical careers in Alaska; and (2) to widen the career options of Native Alaskan students by featuring as many native workers as possible (about 50 percent of those presented) in the tapes. Men and women are frequently shown in nontraditional occupations. The program is centered on career exploration and could easily be integrated into a class or unit on careers, a career guidance program, or a career center.

TARGET POPULATION

The target population is Alaskan students of all ethnic groups. Native Alaskan students may especially benefit from this program by seeing Alaskan natives in a wide variety of careers. But non-natives as well will find the career information and the nontraditional role models (in both ethnic and sex roles) useful in expanding their awareness. The tapes are suitable for use with high school (9th to 12th grades) students in both urban and rural Alaskan settings.

BACKGROUND AND DEVELOPMENT

The videotapes were made and are distributed by Dena Aka Corporation of Fairbanks. This Native Alaskan organization recognized the need for career education materials which are both realistic in terms of careers in Alaska and nonstereotyped in terms of the capabilities of Native Alaskans. The staff decided to produce a series of videotapes using real Alaskan

workers performing their actual job tasks. Though they sought Native Alaskan workers and nontraditional sex role models, their first priority was to present "real world" career information. Thus, not all workers shown are native or of the nontraditional sex; instead, the tapes show a realistic cross section of workers in Alaska in the late 1970's.

The jobs shown in the videotapes were chosen according to the following criteria:

- Occupations listed in the U.S. Department of Labor's *Dictionary of Occupational Titles*
- Occupations listed in the *State of Alaska Employment Statistics*
- Occupations currently employing 100 or more people within the State of Alaska.

A small number of the job titles (4 of the 69) are sex-specific, though much of the tape content intentionally presents men and women in nontraditional careers. Users may wish to discuss this issue directly with their students and introduce current job titles for these occupations. The titles given are yardman, fisherman, waitress, and seamstress; current DOT titles are yard worker (also more specific titles such as log grader), fisher, waiter/waitress, and sewer.

MATERIALS, STAFFING, AND FACILITIES

The set of 11 videotapes covers the 11 career clusters most appropriate for Alaska. The clusters and careers presented are shown in Figure 1.

Showing the videotapes requires a 3/4 inch video cassette playback unit and a TV monitor. The tapes last from 15 to 30 minutes; each is accompanied by a viewer's guide containing the complete transcript of the conversations, as well as other program information. For instance, instructions and a grid are provided to help the staff member using the program record the starting point for each individual job on the tape by using the counter on the video unit. This helps later users, either staff or students, advance the tape directly to any job of particular interest, bypassing those of less interest.

The workers shown on the tapes do not use scripts; they were taped in actual work activities. Narration provides additional information where needed. A typical presentation is the job of a TV production assistant:

> *Director:* On this shot what I want to do is have the tripod and the camera set up on this axis for this shot through here.
> *Production Assistant:* All right, do you want the camera in that position?
> *Director:* Basically that position, lined up that way. And if you could set up a light over here, OK?
> *Production Assistant:* OK.
> *Narrator:* Helping to produce TV programs are TV production assistants. The production assistant is responsible for assisting the

Figure 1

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CLUSTERS

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1. 1	Real Estate Agent	6.1	Travel Agent
1. 2	Insurance Agent	6.2	Game Guide
1. 3	Accounting Clerk	6.3	Hotel Clerk
1. 4	Bookkeeper	6.4	Bartender
1. 5	Accountant	6.5	Cook
1. 6	Employment Interviewer	7.	MARKETING & DISTRIBUTION
1. 7	Personnel Officer	7.1	Ad Copywriter
1. 8	Receptionist	7.2	Sales Representative
1. 9	Clerk Typist	7.3	Purchasing Agent
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2.	COMMUNICATIONS	7.5	Sales Clerk
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2.6	Printer	8.4	Yardman
2.7	Graphic Artist	8.5	Pig Farmer
3.	CONSTRUCTION	8.6	Commercial Fisherman
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5.4	Registered Nurse	11.4	Taxi Driver
5.5	Health Aide	11.5	Truck Driver
5.6	Dental Assistant	11.6	Mechanic

director of a show by organizing props and stage layout, working as needed with audio and lighting set up, and transporting equipment for field productions.

Production Assistant: The best part I like about being a production assistant is the hustling, when we're on a shoot there's a lot of energy going on, there's a lot of things that have to be done. And the production assistant carries a lot of responsibilities. Training for a production assistant, there is formal training such as like four years of college, you can major in communications. What my positon is, is that I'm a trainee, a trainee in a trainee program for production assistants. And so it is on-the-job training. What I don't like about the job is the dependence on the equipment. If you're completely dependent on it, if it breaks down, it's really tough luck. And as a production assistant, I don't think the responsibility is to fix them and so maybe it's just to find a substitute in the field and it's really hard, especially in the field when it does break down because you're just left stranded. You have to think of alternatives.

(Attaching microphone)

Production Assistant: OK, here's the microphone. Could you put it up through your shirt?

Telephone Man: OK.

Production Assistant: I'll hook it up at your lapel. OK, now what we're going to do is put this in the back pocket, conceal it. Got enough pockets back there?

Telephone Man: Yea, I've got one that I think will do.

Production Assistant: OK, there you go. OK, could you count to ten?

Telephone Man: One, two, three, four.

Production Assistant: OK, hold it. OK. Let's try it again.

Telephone Man: Five, six, seven, eight.

Production Assistant: OK, good, thanks.

The staff for this program may be a teacher, counselor, or career center specialist. Only a few hours of staff time per year are required, either to show the videotapes or to help students learn to operate the equipment themselves.

SCHEDULE

All videotapes together last about three hours. They are most effectively used spread out over a semester or on request in a guidance or career center, but could be used in an intensive unit of one to two weeks.

PROGRAM COSTS

Each videotape costs $50.00.

PROGRAM EFFECTIVENESS

The videotapes have been used by local school districts in Alaska, by the University of Alaska in its student orientation service, by the State of Alaska Job Service, and by numerous CETA training programs. The responses have been overwhelmingly positive: the accuracy of job information and the relevance of the occupations shown to Alaskan life and people have been widely praised.

SUGGESTIONS FOR REPLICATION

The Alaska Careers Exploration Program can be implemented as a whole or by using only selected videotapes. Teachers, counselors, career center personnel, or students can use the videotapes in a variety of settings.

Potential users should be aware that while the videotapes provide a number of role models of Alaskan natives in nontraditional careers, they do not include any direct discussions of race or sex stereotyping in today's society or of how students might deal with these factors. Activities on this topic can be found in the publication for classroom teachers, a companion document to these descriptions, and in other sources.

The videotape cassettes are relatively brief and the information presented in them is introductory in nature. For this reason, use of the tapes as a basis for futher career research is advisable. Areas for research could include such things as beginning and average rates of pay, opportunities for advancement, and duration and costs of needed training for occupations shown.

Other areas of instruction could also be useful supplements to this program for students. For instance, instruction and practice in skills such as job interviewing, filling out job application forms, and getting along with other workers could be provided.

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PROGRAMS DESIGNED TO COMBAT HANDICAP STEREOTYPING IN CAREER CHOICE

Peter R. Dahl
Judith A. Appleby

STEREOTYPING AND CAREER CHOICE

Handicapped people are often expected to enter only a restricted range of careers because . . . well, because it's thought to be suitable. People who are retarded are supposed to enjoy boring, tedious, repetitive work. Similarly, deaf people are often said to enjoy art and design work, and the blind to make good newsstand keepers. "Persons who are hearing impaired should work in noisy factories." "Disabled people prefer to work only in jobs helping other disabled people." The list of stereotypes can go on and on. Yet retarded people experience boredom and need relief from tedium. And, while some deaf people *do* enjoy art and design, others care little for them and have no talent in those areas. Almost any generalizations that one makes—even "positive" ones—will be at best distortions of reality.

SOME NOTES ON STEREOTYPES

All kinds of stereotypes exist. The important thing to recognize about *most* of them is that the specific content of the stereotype is not nearly as important as the fact that there is a stereotype present at all. Still, it is possible to identify some common kinds and discuss what career educators can do about them. Before doing so, however, a few other general points about stereotypes need to be considered. First, stereotypes are not universally held—some employers, for instance, have long since gotten over unjustified qualms about hiring or promoting handicapped people and see them as candidates for a wide range of jobs. Second, not all handicapped people have been equally affected by others' stereotypes—many handicapped children, for instance, have *not* been overly protected by their parents and suffer none of the problems that come from being watched over to excess. Finally, stereotypes are undesirable because they unfairly characterize whole groups of people, not because they are necessarily untrue of each individual—some deaf people *do* paint well, for example, and, less frivolously, some emotionally disturbed people are indeed hard to get along with. There is nothing wrong with recognizing a characteristic, desirable or otherwise, when an individual in fact possesses it; the error lies in presupposing that someone has this, that, or the other characteristic just because that person has a handicap.

SOME NOTES ON TERMINOLOGY

"DISABLED" VERSUS "HANDICAPPED." In preparing a document such as this, one often needs a generic term to refer to the whole population of interest. The U.S. Office of Education uses "handicapped" to refer, collectively, to people who are mentally retarded, hard of hearing, deaf, orthopedically impaired, other health impaired, speech impaired, visually handicapped, or seriously emotionally disturbed, and to children with specific learning disabilities. "Handicapped" is the term most commonly

used in education and is used in laws and regulations. Some, however, feel that "disabled" is preferable, arguing that it has a less pejorative connotation than does "handicapped."

We will not attempt to resolve the issue here and, for purposes of this book, have used both terms to give variety to the text. While one or the other term may emerge as clearly the more acceptable general term in the near future, this is a matter which is still in flux and both terms are in common use.

Much more important than the term one chooses, however, is one's frame of mind. The key here is to focus attention on the nurturance of each individual's potential and not to focus unduly on the individual's limitations. It is not good to ignore disability, of course, but, to paraphrase the title of one of the programs, it's what the person *can do* that counts.

MAINSTREAMING. This term was defined by the National Advisory Council on Education Professions Development in a way very much consistent with the concept of the "least restrictive environment." This definition is given below, and it is this definition that we intend when we use the term.

> . . . mainstreaming is the conscientious effort to place handicapped children into the least restrictive educational setting which is appropriate to their needs. The primary objective of this process is to provide children with the most appropriate and effective educational experiences which will enable them to become self-reliant adults. Within this objective, it is thought preferable to educate children the least distance away from the mainstream of society. Hence there is a heavy emphasis on movement into the regular classroom whenever possible. (National Advisory Council on Education Professions Development, 1976, p. 7)

IEP, THE INDIVIDUALIZED EDUCATION PROGRAM. Required by the Education for all Handicapped Children Act (P.L. 94-142), each IEP should spell out: the child's present level of functioning; annual goals and short-term instructional objectives; specific educational strategies and their expected duration; and at least annual plans for determining if educational goals are being met.

Each handicapped child is supposed to have an IEP. Special mention is made of the IEP in a few of the programs because certain aspects of IEP development or implementation seemed particularly worthy of mention. Nonetheless, it should be taken as implicit that participation in any of these programs would further the educational goals specified in the student's IEP.

STEREOTYPES AND THE ROLE OF CAREER EDUCATION

The creation of career education as a Congressional mandate in 1974 emphasized the importance of serving *all* students. The passage of the Career Education Incentive Act in 1977 re-emphasized this and drew special attention to the need to reduce the effects of stereotyping on the career choices

of handicapped people. P.L. 94-142 established a "free appropriate public education" in the "least restrictive environment" as the right of all handicapped children. The message of these various mandates is clear—*all* children must receive nonstereotyped career education and be integrated into society to the fullest extent possible consistent with their needs and desires.

But with what aspects of stereotyping should career education be concerned the most? Since the goals of career education are so broad, it might fairly be argued that practically any stereotype falls within its domain. Still, there are some common kinds with which career educators must be particularly concerned.

Some Common Stereotypes

We will consider three common classes of stereotypes, pointing out some ways in which they may manifest themselves in the school, in business and industry, or in the family.

STEREOTYPE 1: *There is only a very small range of careers that handicapped people can expect to pursue.* An unfortunately common habit of mind is to ruminate on the problems that a person with this or that disability might have in satisfying certain job requirements. Often, such ruminations identify genuine problems, but are still essentially obfuscatory for a couple of reasons. First, they direct attention to jobs that a person probably could not do, which is not very helpful—each of us is suited for some things and not others, with the former being much more worth thinking about than the latter. Second, most jobs are within reach of a great many handicapped people, including some jobs that seem unlikely on the face of it; by picking out some of the more extreme difficulties, one tends to subordinate this fact—again, an unhelpful approach. An effect of all this is that handicapped people may be presented with few opportunities in education to learn about and become interested in careers which they might well find rewarding.

This and related stereotypes often stand in the way of disabled people seeking employment. Employers may not see immediately how the disabled person can get the job done properly (or at all) and jump to the conclusion that the person cannot. Or, employers may believe that other workers will not be able to work well with handicapped colleagues, or will work adequately with them only in certain roles—the latter is particularly serious as it may serve to close off opportunities for advancement. Generally speaking, these fears will not come true; disabled individuals are as likely as those who are not disabled to work out well on the job.

STEREOTYPE 2: *Handicapped people are excluded from full participation in most activities by their disabilities.* This is really a more general statement of the first stereotype, representing the same unfortunate habit of mind more broadly applied. This stereotype tends to divert attention from the many ways in which various disability related problems can be over-

come—a greater appreciation is needed for the fact that many, perhaps most, tasks can be accomplished in ways other than those routinely used. An extreme, but not uncommon, manifestation of this stereotype in education and job training is that disabled people can *only* succeed in a "special" setting. Of course, special settings, from resource programs to residential schools, offer many valuable services. The trick is to arrive at the best "mix" for the individual that is as close to the regular environment as possible.

Staff in regular programs may manifest this stereotype in many ways, among them: disabled students will lower the standards in the classroom; they will not be able to get along with other students; they will not be able to communicate and teaching will be impossible; they will require a humanly impossible amount of work on the part of the teacher; they will require all instructional activities to be specifically designed for them; they will jeopardize their own or others' safety; they will waste precious time that might better be devoted to students who are more likely to succeed. There are, no doubt, cases in which each of these things has occurred resulting, very probably, from poorly conceived placements, inadequate support services, or a failure to prepare the teacher adequately to meet the student's special needs. If good planning and necessary support services are in evidence, however, disabled students can participate in most activities.

STEREOTYPE 3: *Disabled people have to be protected from the hurly-burly of the world.* It is, of course, true that everyone must learn to cope with life's vicissitudes, and that a person's capabilities and limitations are quite germane to determining how that individual copes. In some cases a disability does indeed serve to define situations to avoid. However, excessive solicitousness and overprotectiveness can arise all too easily. The individual exposed to too much protectiveness may become essentially an underachiever with a poor self-image. This may manifest itself as discouragement about the future, withdrawal from learning and working situations, lack of personal planning, or some other undesirable traits that interfere with realization of the person's full potential.

THE ROLE OF CAREER EDUCATION

Let us begin by looking at some of the reasons that stereotypes persist. Bogdan and Biklen (1977) state that a stereotype is often steadfastly maintained, although inaccurate. First, culture often supports the transmission of stereotypes, constantly reinforcing them. Second, handicapped people are often isolated, have relatively few opportunities for intimate relations to develop between themselves and so-called normal people, and consequently have little chance of disproving the stereotypes. Last, and perhaps most important, handicapped people are often treated in ways that correspond to various stereotypes and are rewarded for living up to others' image of them (Lemert, 1951). Career education can help to break these vicious cycles. Here are some of the ways.

SHOW HANDICAPPED PEOPLE IN A VARIETY OF ROLES. Career educators, when they develop materials, conduct "career days," invite guest speakers, take students to job sites, and so on, can include handicapped people in a variety of roles. They can be shown in pamphlets, serve as resource people, and otherwise be involved. *And, this should be done for all activities.* Disabled people should not just pop up in "handicapped activities" then go away, suggesting one-dimensionality. For example, a chemist who is cerebral palsied, might come to a career day assembly to discuss opportunities in science and related areas. That the person is disabled will be a good object lesson for all, and, quite possibly, a source of encouragement for handicapped students—but that need not be the theme of the presentation, or even mentioned. The person's profession is, after all, chemistry, not cerebral palsy.

EXPECT A LOT FROM HANDICAPPED STUDENTS. Handicapped people, notwithstanding the barriers they have faced, fill practically every role society offers. As barriers fall, it will become less and less unusual to find handicapped people in a wide variety of positions. Barriers are one thing, but challenges are another. The former are needless impediments, the latter are integral to life's endeavors and handicapped students should meet and master them along with the other students. Doing so is not only satisfying in and of itself, it also enhances a student's self-image, raises his or her standing with others, and provides important practice for career success.

GIVE OTHER CHILDREN A CHANCE TO MEET AND WORK WITH HANDICAPPED YOUNGSTERS. Students can work together on projects, reports, and in the multitude of day-to-day school activities. In this there is a balance to be struck between students taking on roles at which they are naturally adept, which is fine up to a point, and the routine assignment of a particular role. Everyone, handicapped children included, should get a chance to lead, to follow, to work cooperatively with others, and to make independent efforts.

GIVE OTHERS A CHANCE TO SEE THE STUDENTS ACHIEVE. This includes parents and the community. The vehicles are many, from projects to take home, to open-houses, to IEP review meetings, to work placements. Many possibilities are presented in the programs discussed below.

REMEMBER THAT A "HEAD-ON" APPROACH IS NOT ALWAYS NECESSARY. That stereotypes are attitudinal at base often suggests a "direct" approach to attitude change, one in which people are encouraged to identify their presuppositions and concerns and to deal with them. There is much value in this and some of the programs feature it. At the same time, a great deal of attitude change comes from doing and from seeing done. If disabled students are to realize their potential to become competent, independent members of society, they, no less than others, must have the chance to nurture their skills, to become involved with the world and explore the whole gamut of possibilities it offers, to learn to deal with life's

realities, and to familiarize others with their capabilities. Providing opportunities to do these things may seem to be an "indirect" way of combatting stereotypes, but it is crucial.

These, of course, are things with which all educators should be involved. Career educators, however, are in an unusually advantageous position—if a concern with stereotype reduction permeates their endeavors, then, as career education is infused throughout the curriculum, this concern should become ubiquitous as well.

COMMONALITIES AMONG PROGRAMS

For all their diversity, these programs have some striking commonalities, in addition to the fact that they serve to enhance the career possibilities for handicapped students. These may be thought of as commonalities of "tone" or "style." Let us look at some of them.

THE PROGRAMS HAVE SPIRIT. There is a sense of venturesomeness and excitement in the programs. They give one the feeling that those in charge are not in the habit of being stymied and do not expect their students to be stymied either. This quality really underlies the other commonalities.

THE PROGRAMS PROVIDE MANY OPTIONS. Each program recognizes the diverse needs and capabilities of the students served. Many kinds of content can be learned in almost every program—basic and advanced academic skills and knowledge, interpersonal skills, good work habits, and knowledge about careers are among them. In some cases, there are more opportunities than have yet been used fully because students with the requisite talents and interests have yet to come along—but the opportunities and options are there.

THE PROGRAMS GET STUDENTS INVOLVED WITH THE LARGER WORLD. The methods are many, but each program reaches out and draws in others—nonhandicapped students, business and professional people, staff of voluntary agencies, retirees, or members of the community at large. The extent to which this is done varies by program, or even program component, but whatever its extent, this feature is always present and always important.

THE PROGRAMS CAN BE GENERALIZED OR ADAPTED. Some of the programs, although certainly not all, were designed originally for students in one or a few disability groups. Clearly, however, these programs could include other students as well. Moreover, the programs can be modified to take advantage of opportunities in a community different from the ones in which they were developed. These aspects of flexibility are discussed in the "Suggestions for Replication" section of many of the descriptions.

THE PROGRAMS ARE INTERESTING FOR THE PARTICIPANTS. While they have serious purposes and are not at all frivolous, they are likewise anything but grim. Most provide a stimulating environment for having handicapped and nonhandicapped students work together.

It has been a pleasure to prepare the program descriptions that follow. We hope that you find equal enjoyment in reading them.

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CAREER CITY AND FRIENDS—A COMPREHENSIVE CAREER EDUCATION PROGRAM FOR HANDICAPPED STUDENTS

Quincy, Illinois

What with the grocery store and the bakery next door to each other, it is easy in Career City to pick up all the fixings for a party in just one trip. Then too, the photo shop, barber, and greenhouse are nearby just in case you want to record the good times or you or your house need some sprucing up. And, if you should come up short of funds, the bank is within easy walking distance. The shopkeepers and customers in Career City are all primary school children enrolled in the Quincy, Illinois, Public Schools. Career City, located in the basement of a grade school, is one of eleven diverse centers constituting Quincy's "Career Education Through Multi-Experience Centers" project. Career City is for primary school youngsters, but, taken together, the centers serve students from elementary through high school. The other centers located at various sites around Quincy are: Clerical Center, Construction Center, Food Service Center, Grooming Center, Health Careers Center, Horticulture Center, Laundry Center, Maintenance and Repair Center, Production Service Center, and Upholstery Center.

GOALS OF THE PROGRAM

The overall goal of the "Career Education Through Multi-Experience Centers" program is to provide a comprehensive career education program for handicapped students. A main objective under this goal is to increase the career awareness of students in grades 1 through 7. Other important objectives are: (1) to enhance students' self-concepts; (2) to improve students' attitudes toward work and school; (3) to increase teachers' understanding of career education concepts; and (4) to raise the level of staff acceptance of handicapped students.

TARGET POPULATION

The program is designed to serve children in the following groups: educable or trainable mentally handicapped, learning disabled, hearing impaired, visually impaired, physically handicapped, and those with behavior disorders. In practice, while it is true that children in each of these categories have used the various centers, the greatest number of users have been educable mentally handicapped.

BACKGROUND AND DEVELOPMENT

This project is an outgrowth of the "run-down house" program operated in Quincy since 1970. Given to the Special Education Department by the Board of Education, this house has provided the vehicle for teaching construction and landscaping skills, and now serves as the "Vocational Training House," which still provides an opportunity to learn about construction and landscaping. Working together at summer inservice sessions over a two-year period, special education and regular faculty designed and built the centers that are now in operation. Starting a program like this clearly requires the cooperation of special and regular educators in program design and operation to make sure that the program fits in with the education program and that it meets the needs of handicapped students.

MULTI-EXPERIENCE CAREER CENTERS

We will briefly describe each of the eleven centers, then discuss some operational details of the program before focusing briefly on Career City. Before doing so, however, we should note that the centers are designed to assure flexibility adequate to accommodate the wide range of abilities and disabilities of students who attend. For example, one mentally handicapped child may need to practice for days to cut a piece of cloth properly in the Upholstery Center, while another may build a footstool in much less time. Likewise, accommodations and support services necessary will vary from student to student. Making suitable arrangements is part of the joint planning that goes on between center staff and classroom teachers in anticipation of a center visit.

Two other points are worth making: (1) skills taught at the centers are not strictly "special education" skills—thus the centers can be used profitably by other children, reducing any stigma that might otherwise be attached to visiting them and (2) since skills appropriate for students of many ages are incorporated in most centers, "old hand" high school students are able to serve as aides, providing a ready vehicle for addressing other kinds of stereotyping, for example, by having boys take nurturant roles in teaching younger students, or by having girls help out in teaching traditionally male skills.

Table 1 shows sample activities that might be carried out at each center. What is *actually* done, of course, depends on the particular children present on any given day. The various centers may be described as follows:

CAREER CITY consists of seven mini-buildings: a greenhouse, a grocery store, a bank, a bakery, a photography shop, a barber and beauty shop, and a residential house. Career City was built by special education students and is designed to supplement the classroom curriculum by providing hands-on learning experiences that increase career awareness.

THE CLERICAL CENTER, located at a junior high school, provides students with an opportunity to learn skills needed for various office and clerical careers. The Clerical Center contains typewriters, duplicators, files, and other kinds of common office equipment. Students learn the proper use of machines, take typing lessons, and practice the social skills needed by office workers.

THE CONSTRUCTION CENTER, located at the former "run-down house" since converted into the attractive Vocational Training House, offers students a chance to become familiar with basic carpentry, masonry, plumbing, and other skills that may lead eventually to jobs in the building trades. The interest of the very capable student may also be aroused in such related occupations as architecture, contracting, and some branches of engineering. Regular vocational staff often become involved in this program, as do community members who work in the skilled trades. Success in the construction center leads to enrollment in other facilities operated by the school district.

THE FOOD SERVICE CENTER, located at one of the high schools, serves both elementary and secondary students. Elementary students work on a one-to-one basis with older students, learning about such occupations as baker, candy maker, doughnut maker, pizza maker, and cook or chef. Classroom and center learning experiences are coordinated so that, for example, elementary students may study apple production and apple products in class, finishing up with the chance to make applesauce at the center. Secondary students learn specific job skills in food service and food preparation, which may include employment at restaurants in the community. Besides job skills, students learn about proper nutrition, good food buying habits, food storage, and food preparation, all of which are valuable daily living skills.

THE GROOMING CENTER, located at one of the elementary schools, emphasizes the necessity of good grooming as it relates to careers, and provides training in the following areas: personal hygiene, posture and exercise, clothing selection, ironing, washing, sewing, and related areas. Greater pride and improved physical appearance tend to enhance the self-image of many students, adding further to their career readiness.

THE HEALTH CAREERS CENTER, located at the Vocational Training House, emphasizes home nursing, and gives students a chance to acquire skills related to a nursing career. This may include learning what a nurse's responsibilities are, becoming familiar with various pieces of hospital equipment and their use, and practicing specific skills such as giving bed baths and taking temperatures. Center training is enhanced by local nurses who demonstrate various techniques to the children. Emphasis throughout is placed on the development of good judgment and self-reliance.

Table 1

SAMPLE CAREER CENTER ACTIVITIES

Center	Grades Pre-K - 3	Grades 4 - 6
Career City	Role-playing, all areas Play activities/career games Math problems: bank, grocery, bakery Plant seeds and care for plants	Advanced individual math problems Slip plants Take photo/develop and print Contract/sell cookies—bakery
Clerical Center	Draw or trace design on duplicator master Observe duplicator design reproduced Color own design Use primary typewriter Observe demonstrations of machines	Run duplicator masters Stuff packets
Construction Center	Construct bird feeder Construct key holder Construct bird house	Construct all the K-3 items Construct plant holder Construct bookcase
Food Service Center	Frost/decorate cookies and cupcakes Make individual pizzas Make individual doughnuts Make/roll/cut cookies Make peanut butter Make butter Observe microwave oven	All of the pre-K-3 list Make lollipops Plan/buy/prepare a holiday meal Make applesauce Make potato chips Make crackers
Grooming Center	Shine shoes Wash hands Comb hair Brush teeth Body hygiene	All those listed for K-3 Posture Wash hair Dry hair Nail care Care of clothing
Health Careers Center	Bed bath demonstration Resource person/nurse Examination of medical equipment	All the K-3 items Demonstration of bed making Practice bed making
Horticulture Center	Plant seeds Observe growth Mix/measure soil Prune small plants Water plants	Plant seeds Observe growth Transplant Slip plants Fertilize/spray Plant signals for health
Laundry Center	Sort clothes Observe older students iron on a mangle Identify various cleaning agents	Sort clothes Study water temperature Iron flat pieces Fold clean clothes and linens

Grades 7 - 10	Grades 11 - 12
NOT APPLICABLE	NOT APPLICABLE
Operate machines/duplicator, mimeograph, cash register, adding machine, Dukane, filmstrip and 16mm projector Assemble packets Clean equipment Simple typing/filing Laminating Proper phone usage	Refine grade 7-10 skills
Construct individual intermediate projects Install insulation Glaze windows Build screens Interior and exterior painting	Participation with a carpenter as a helper Lay bricks Roof house Pour/finish concrete Individual woodworking project/own design Lay carpet Hang wallpaper Install dry wall and paneling
Develop/refine cooking skills Learn serving techniques Serve luncheons and banquets Study foreign and ethnic foods	On the job work experience: a. dishwasher b. bus boy/girl c. waitress—community d. cook e. food service-nursing home Assist smaller children in Food Service Center Improve skills to an independent living level
All those listed for K-6 Exercise Nutrition studies Setting hair Consumer products evaluation	All those listed for K-10 Assisting smaller children
Learn home nursing skills Feed patient Change bed Clean patient room Bed bath demonstration	Practice skills needed for nurse's aide Actual on-the-job work experience at a nursing home
Plant management Transplanting/when/how Slipping/when/how	Refinement of skills learned in previous grades Care of evergreens and fruit trees General tool upkeep General greenhouse upkeep Temperature range Harvest timing Fertilization Pesticides Organic gardening
Ironing techniques Proper use of washer and dryer Clothes sorting Bleaching	Work placement in a laundry

Table 1 *(cont'd.)*
SAMPLE CAREER CENTER ACTIVITIES

Center	Grades Pre-K - 3	Grades 4 - 6
Maintenance and Repair Center	Students observe older students assemble toys Identify tools	Identify tools Proper handling of tools, shop safety Assist older students in repair or assembly of toys
Production Service Center	Stuff envelopes Sort colored mail envelopes	Stuff envelopes Seal envelopes Sort mail by ZIP codes
Upholstery Center	Observe older students and Career Aide dismantling couch, chair, etc. Make pin cushions	Construct pin cushion Construct pillow Construct/upholster footstool Cover waste baskets

Grades 7 - 10	Grades 11 - 12
Assemble toys Repair toys	Repair small appliances Assemble toys Repair bicycles
Stuff envelopes Sort bulk mailing Assemble packets	Solder radio parts Assemble packets Bulk mail Stuffing Sealing Sorting Bundling ZIP Code regulations
Construct footstool Construct advanced design pillow Construct/cover wastebasket Upholster simple chair (small kitchen or dining room chair)	Learn all skills necessary to upholster difficult furniture such as couches, chairs, rockers, and recliners from inside out. Learn to identify fabrics

THE HORTICULTURE CENTER has as its home base the greenhouse at a junior high school; gardening and landscaping are also undertaken at other locations in the community. The center specializes in the production of fruits, vegetables, trees, shrubs, and flowers, but landscaping, gardening and floral design are also included among its offerings. Students learn principles of plant husbandry, such as the selection and use of fertilizers. Even the scientific method can be introduced as students systematically vary the amounts of sunlight, moisture, and fertilizer and keep records showing the effect of these factors on plant growth. Classroom and center activities are coordinated by, for example, the development of terrariums in the classroom. As an adjunct to the Horticulture Center, the owner of a local greenhouse will visit classes to discuss soils and plant care, demonstrate proper growing techniques, and help students with their terrariums.

THE LAUNDRY CENTER operates at the Vocational Training House, with satellite stations at a high school. Students learn specific job skills in operating laundry equipment, in ironing, and in handling clothing. This provides valuable self-care instruction for many students as well as specific vocational preparation for some.

THE MAINTENANCE AND REPAIR CENTER, located at one of the high schools, gives students the chance to develop practical skills in repairing small engines, toys, bicycles, and small appliances. In the process, students learn to work with small tools and are encouraged to develop positive peer relationships, good work habits, and improved self-image. Skills learned at this center not only constitute good career preparation but are also useful in daily living in that the items repaired are just the kinds of things that break down around the house.

THE PRODUCTION AND REPAIR CENTER gives students the chance to improve their manual dexterity, to practice good teamwork, and to learn to get on well with others as they acquire skills needed in various assembly industries. Students not only work on the assembly line but also have the chance to act as supervisors with responsibility for organizing and overseeing the assembly process. Students prepare mailings, assemble radios, and master the intellectual challenge of learning the federal postal regulations related to sorting, ZIP coding, bundling, and weighing bulk mail.

THE UPHOLSTERY CENTER, located at the special education center, allows students to gain various skills in furniture restoration. Depending on age, capability, and time available to spend at the center, students may make relatively simple items like pillows and pincushions, or take on very sophisticated tasks such as repairing and reupholstering furniture. Safe use of tools, including commercial sewing machines, is stressed at the center.

ADAPTATION TO INDIVIDUAL NEEDS

With the exception of Career City, which is strictly for elementary school students, each of the centers offers activities for students at all grade levels.

Depending on age and individual level of career development, activities may be thought of as primarily awareness, exploratory, or, to a lesser extent, preparation. The centers address stereotyping in two fundamental ways. First, by offering students the opportunity to become aware of careers, and to gain job and interpersonal skills necessary for success, they provide the basis for student entry into careers they might not otherwise have considered. Second, since many of the activities involve people in the community in some way, there is an opportunity for others to see for themselves that handicapped students are able to make a contribution.

The fact that certain of the centers feature activities that are in some sense "traditional" occupational areas for handicapped people should not cause them to be viewed unfavorably because such a wide variety of options is available. To view them unfavorably on this basis would be analogous to the misunderstanding that sometimes arises in discussions of sex equity in which proponents of equity are mistakenly taken to argue that there is something wrong with a woman being a homemaker, a typist, or a nurse. Generally, that is not the argument at all; rather, the point is that women and men should have available the full range of options—that some of them are traditional is not undesirable, as long as nontraditional options are equally available. Similarly, the Multi-Experience Centers provide students with the opportunity to look into a wide range of careers. Moreover, in coordinating work center and classroom, plenty of opportunity arises to incorporate undertakings challenging even to very gifted students.

In sum, the Multi-Experience Centers approach is designed to provide handicapped students with opportunities: (1) to become aware of the world of work, (2) to explore exciting and meaningful careers, (3) to prepare themselves for certain of the more demanding and lucrative occupations, and (4) to participate actively in a wide range of career areas. Field trips to these centers not only give students a chance to look into careers, but teach skills that are useful in and of themselves even if the student ends up pursuing a vocation completely different from those featured in any of the centers.

To make the most of opportunities for stereotype reduction, it is important that teachers be made aware of common stereotypes and encouraged to develop ways to lessen them. Activities to this end are, therefore, included in training sessions provided for teachers in advance of their using the centers. First comes an exercise in which teachers are asked to describe the kind of person they would pick for each of several jobs; stereotypes thereby revealed are then pointed out and discussed. Once made aware of these stereotypes, most teachers wish to undo them and what might be called a guided brainstorming session is used in which teachers identify ways of doing so. Teacher ideas range from guest speakers, to games designed to address some aspect of stereotyping, to assuring that roles assumed during visits to Multi-Experience Centers are not stereotyped. The key, according to Quincy staff, is to get teachers aware of the problem and personally involved in figuring out ways to lessen it.

MANAGEMENT, STAFFING, AND SCHEDULING

The emphasis in the centers is on student participation. Since students *visit* the centers with their classes as an enrichment activity, training sessions are offered for teachers to help them make the most of the visit. Training sessions cover, among other things: (1) elimination of stereotyping; (2) the concept of career education and its terminology; (3) considerations in undertaking and evaluating a career education program; (4) useful community resources; and, most importantly for the present discussion, (5) guidelines for visiting a center, including not only the technicalities of scheduling, but also some methods for relating specific center activities to classroom activities. This coordination of classroom and learning center is furthered by materials given to teachers which suggest ways to build on center activities in the classroom.

Students are scheduled into the centers through the career specialist in charge of each center. The specialist is a teacher who has undertaken additional coordination duties for the project. In addition to the career specialist, six of the eleven centers have full-time career aides assigned to them. For example, the Upholstery Center has an aide skilled in furniture reconstruction, while the Construction Center enjoys the services of an aid expert in carpentry. Career aides are also employed in Career City and the Clerical, Food Service, and Grooming Centers. Also, as mentioned in the discussion of the individual centers, various members of the community have visited the centers to share their expertise with the students.

Student participation in a Multi-Experience Center may be as short as a single one-hour visit, or as extensive as repeated visits taking several hours a day over many weeks. During visits, a maximum 15:1 student to staff ratio is maintained to assure adequate individualized instruction.

COSTS, FUNDING SOURCE, EQUIPMENT, AND FACILITIES

Costs, equipment, and facilities will vary dramatically, depending on what kind of centers are set up. Cost also depends on how enterprising and, yes, lucky, staff are in locating sources of free or inexpensive supplies and materials and in making use of existing facilities. We will return to the matter of costs under *Suggestions for Replication*, discussing it in somewhat more detail there. For now, suffice it to say that while the Quincy Multi-Experience Centers project obtained a large grant from E.S.E.A. Title IV-C and Illinois Title III funds for a three-year period from July 1974 to June 1977, the greater part of these funds was used in development activities such as workshops, travel, consultants, and administration. Quincy staff estimate that those wishing to start a similar program could do so for around $20,000, since they would not have to support many of these expenses. Equipment and facilities were, for most centers, already possessed by the school district or contributed by the community. Looking for things that can be inexpensively acquired or are already owned are good general

strategies. Still, some things will have to be bought. For example, the Quincy Upholstery Center had to purchase commercial sewing machines; another district replicating the program was able to get them free from a local furniture manufacturer.

COMMUNITY INVOLVEMENT

One key to success in a program such as the Multi-Experience Centers is to involve the community. This can come both by asking people to share their expertise and by obtaining community contributions. Some examples of drawing upon members of the community for expertise were discussed in the descriptions of the individual centers. Two outstanding examples of community contributions come from the Health Careers Center and the Horticulture Center. The former was equipped with used equipment donated by a local hospital—the center only had to buy the sheets. A hospital administrator is on the advisory board and was very helpful in setting up the program. During its first year, the Horticulture Center had the help of a local florist who was willing to make available an entire row of his greenhouse and who still helps out by visiting classes, as discussed above.

PROGRAM EFFECTIVENESS

Evaluations were concerned with the primary objective of raising career awareness of students in grades 1 through 7. Evaluations used the *Quincy Career Awareness Inventory* which consists of seven subtests. Three of the subtests require the student to identify the occupation or work function of people shown in illustrations, three others assess the student's knowledge of the need for specific kinds of occupations and of why it is that people work. The seventh subtest asks the student to name as many jobs as possible within a two-minute period. Pretest/posttest differences significant at the .05 level were found over two school years for all three subtests of the first kind, for one subtest of the second kind, and for the seventh subtest. No comparison data for control students are available.

In addition to these results, project staff report that further career education efforts have been stimulated by the Multi-Experience Centers. These efforts are of benefit to all students in the district. Moreover, special and regular educators are now cooperating more closely than they did in the past, to some extent as a result of participation in the Multi-Experience Centers project.

CAREER CITY—ITS WORKS AND WAYS

Career City is a model town of kid-sized buildings such as are so beloved by children. The following are included in Career City:

Building	Career Area
Greenhouse	Gardening, Floristry
Teller's Cage	Banking
Bakery	Baking
Grocery Store	Shopkeeping
House	Domestic Service
Barber Shop	Barbering, Cosmetology
Photo Shop	Photography, Shopkeeping

The layout is attractive and looks like fun. Kids who see Career City will want to start in playing, but the idea, of course, is to learn something, not *just* to have a ripping good time. Accordingly, teacher packets have been developed to accompany each career area in Career City, to help make the most of the opportunities available.

A Sample Career Packet—Gardeners, Florists, and Landscapers

Each of the packets contains similar materials; selected items from this packet are used here by way of example. These packets provide ideas for the teacher, not firm and fast procedures—teachers pick and choose among suggestions in the packet, and adapt them as needed for the grades they are teaching and the level of career development of their students. It is also important to note that the packet contains suggestions not just for the time spent in Career City, but also for related activities to be undertaken in the classroom or community. The packet contains the following items.

STUDENT OBJECTIVES. These are broadly stated, overall objectives, including: beautify the surroundings; learn horticultural skills; appreciate the value of gardeners, florists, and landscapers; and develop a sense of the work involved in these careers.

SKILLS TO BE GAINED. Again, these are broadly stated, allowing for easy adaptation to various student needs. They include: know how to use tools involved in these careers; know how to plant a seed correctly; know how to care for plants; and know and identify some very common plants and flowers.

BEHAVIORAL OBJECTIVES specifying acts that the children should be able to perform, for example: identify tools that are used for planting by selecting them from among an array of tools; distinguish between a bulb and a seed; explain why plants are able to grow in the greenhouse in the middle of winter; and apply knowledge of the proper tools and conditions for planting by planting tulip bulbs.

EQUIPMENT AND MATERIALS REQUIRED listing what teachers will need for the various activities—hoes, rakes, tulip bulbs, and so on.

ACTIVITIES describing classroom or community undertakings to complement what is learned in Career City. This includes: visits to florists and nurseries; planting flowers at various school district facilities; making flower arrangements; and putting in the proper order a series of pictures of a plant from germination through the dropping of the petals.

COMMUNITY RESOURCES listing cooperative local florists, nurseries, farms, and the like.

RESOURCE MATERIALS listing books, films, tapes, and other materials relevant to this topic area that are held by the Quincy Public Schools and the Quincy Public Library. Similar packets provide the teacher with materials useful for expanding on any of the career areas included in Career City.

Participation in Career City

There are a great many slots to be filled in Career City. This not only gives students a chance to role play a great many jobs and to follow up on them later. It also allows students to assume a great many generic roles—the one in charge of an enterprise or a subordinate, the one providing "expert" advice to a customer or the one receiving it, the one making "business decisions" or the one requesting them, and so on. Thus, students have a chance to break out of the stereotype of the handicapped person *always* being the helped, the subordinate, or the follower. Whether this is a more valuable lesson for disabled or nondisabled students is hard to say.

Infusion of Career Concepts in Other Subject Matters—Mathematics as an Example

Sample mathematics exercises illustrating typical problems encountered in Career City careers have been prepared for use back in the classroom. Here is an example related to horticulture careers:

> Bill bought a seedling for 10 cents. He figured it cost him 20 cents to grow. If he sells the plant for 50 cents, how much profit does he make?

In addition, more general suggestions are offered about incorporating career concepts in mathematics instruction. For example, in the area of "Lawn Care," the following are suggested for use in tying together mathematical calculations and practical experiences:

- Measurement and the computation of perimeter and area.
- Figuring cost per pound of seed, and comparing prices by company or type of seed.
- Figuring hours of work, rate per hour, and pay per job.

These activities, and similar ones related to other career areas, may, of course, be useful for students who have visited the Horticulture Center as well as for those who have learned about horticultural occupations at Career City.

Summary

Career City is intended to be fun, and the activities undertaken there are designed to be related to ongoing classroom activities and to be tied to other opportunities available in the community. Teachers are trained and

provided with supplementary materials to help them make the most of the opportunity for their classes to visit Career City. The same goes for the other centers.

SUGGESTIONS FOR REPLICATION*

The overriding concern in replicating a program like this is to select and adapt the various components to fit the needs, priorities, and possibilities in another district. What was necessary, desirable, or opportune in Quincy may not be in Scranton, Paducah, or Seattle. Still, there are some general considerations in replication

CONSIDER COSTS CAREFULLY BEFORE YOU BEGIN. If one were to set out to buy all of the things needed for a group of centers such as those operated in Quincy, the cost could be enormous. Expenses can vary as a function of a number of factors, including size of district, existing facilities that can be used, the kind and amount of involvement that can be gotten from the community, expertise already available among school staff, and the specific centers planned. Some basic data on the size of the Quincy special education program will help to provide perspective. The Quincy Public Schools employ 500 professionals, of whom about 100 are assigned to Special Education. Starting the program required one week of inservice for 30 of these staff at a cost of $5,700. Materials for start-up and for the first year of operation came to $3,054. Facilities were already available within the school district, or were obtained within the community at no cost for the first year of operation. Transporting students to the various centers cost $700, salaries of career aides $8,100, and employee benefits about $1,600. Any of these could vary greatly depending on a host of easily imagined factors that differ from community to community. Each of the items mentioned above does, however, represent a cost category that should be considered relative to available funds as planning progresses. Many of the further suggestions for replication have the agreeable effect of helping to keep costs down, even though that is generally not their main purpose.

REALLY GET OUT INTO THE COMMUNITY. This can include any number of things from locating some of the centers at cooperative business establishments, to arranging for field trips and brief hands-on experiences at job sites, to asking workers to visit one of the centers to share their expertise. Not all employers are willing to cooperate in these ways, but many are, and some more enlightened companies, including many well known national firms, actively encourage employees to engage in community service activities. This will make the program more interesting and realistic than it could possibly be if it were strictly school based. It will also give students a better understanding of what various careers are really like. Then too, some companies may be willing to contribute supplies and equipment that could

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*The Quincy project is part of the *Illinois Diffusion Network*, and its staff can provide assistance within Illinois without charge. A district outside of Illinois would have to pay travel expenses for Quincy staff if it wished assistance.

otherwise not be afforded without unbearably cutting into the program in some way (or which, perhaps, could not be afforded at all).

ESTABLISH EFFECTIVE COOPERATIVE RELATIONSHIPS BETWEEN STAFF OF THE CENTERS AND THE TEACHERS WHOSE CLASSES WILL USE THE CENTERS. This, of course, includes a whole host of virtues. Among those present in Quincy were: involving teachers in planning and setting up the centers, providing teachers with materials for integrating center activities with classroom or community activities, and establishing easily followed procedures for scheduling center visits and for making sure that any necessary support services are available when the students come to visit.

GET THE KIDS INVOLVED IN SETTING UP THE CENTERS. Much of the actual building or remodeling of the centers is within reach of students. Engaging their help will not only give them a sense the centers are "theirs" but will also be a valuable career education lesson in and of itself.

HAVE A WIDE RANGE OF OPTIONS AVAILABLE AT THE CENTERS. In the Quincy program, activities are available at many levels of sophistication to provide useful opportunities for students varying widely in capability. Similarly, you may wish to have available options ranging, say, from basic skills in planting a flower, to sophisticated lessons in the exchange of nutrients between plant and soil. Having many options also assures that activities of various durations are available. Students who attend a center for only a couple of hours should have some relatively brief project to complete so that they depart with a feeling of achievement. Students who will be spending considerable time at a center can, of course, engage in much more ambitious undertakings.

The Multi-Experience Center concept provides a variety of exciting opportunities for students and staff alike. And, of course, the benefits should not be restricted to handicapped students. Nonhandicapped youngsters participate in the Quincy program, and some sites that have adopted the model have intended it primarily for the nonhandicapped. The implications for integrating handicapped and nonhandicapped students are clear.

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MAINSTREAMING AND CAREER DEVELOPMENT FOR HANDICAPPED ADOLESCENTS

Yorktown Heights, New York

One student is academically inclined and looks forward to a college education, another leans toward auto mechanics, drafting, dental technology, or some other regular vocational program, a third is capable of undertaking either path but is full of uncertainty, while yet a fourth has the ability to succeed in only a small portion of a mainstream program. How can the career education needs of all four students be met? This chapter describes the model used by the Putnam/Northern Westchester, New York, Board of Cooperative Educational Services (BOCES). The operational details of this program are, of course, determined in large part by the fact that this, like all BOCES, is intended to provide educational opportunities and special services that complement those offered by several participating districts. Still, the general model for providing services suggests many useful strategies for programs operating under other organizational arrangements. Students have several options upon entering high school which provide flexibility in meeting student needs. Options include: (1) a complete academic program in the mainstream, supplemented by career awareness and life skills training taught by a special education teacher, (2) an Exploratory Occupational Education Program developed specifically for special needs students, (3) technical training in one specific career offered in the regular vocational program, and (4) a Specific Skills Training Program for students ready for employment training but for whom regular vocational training or work/study programs are unsuitable.

GOALS OF THE PROGRAM

The program is designed to be sensitive to the fact that a wide range of opportunities are required to meet the very diverse needs of handicapped students. Steps are taken to familiarize students with the wide range of options available, and to assist them in selecting academic and vocational lines of study most in accord with their interests and aptitudes. Students enroll in that combination of mainstream and special education programs that best meet their needs. Moreover, the program is designed in a way that recognizes that the diverse districts served have varied needs as well; flexibility in complementing services the districts provide is a highlight of this program.

TARGET POPULATION

The program serves handicapped adolescents, regardless of disability, who attend school in the area covered by the Putnam/Northern Westchester BOCES, which comprises 18 districts varying from poor (both urban and rural) to well-to-do. Districts range from almost all White to 40% Black.

PROGRAM STAFFING AND MANAGEMENT

That this BOCES serves so many diverse districts dictates that flexibility is necessary in its programming. This need for flexibility is reinforced by the fact that the districts vary in the amount of special education services they provide themselves and, correspondingly, in the role they wish the BOCES to take in their districts. Accordingly, the BOCES is designed to respond to whatever request a particular district may make, which requests may range from BOCES providing all services for a particular group of handicapped children, to supplying a certain number of resource rooms or itinerant teachers, to helping with the preparation of IEPs and the rendering of specialized assistance on an as-needed basis, to nothing. To meet these varied requests, BOCES maintains a staff that includes: supervisors who coordinate special education services requested by the districts; teachers with specializations in various disability areas who serve as resource room teachers, itinerant teachers, or special class teachers in the districts; and teachers who conduct the special programs described later in this chapter. In addition, the BOCES organizes Support Teams made up, as necessary, of psychologists, social workers, special educators, and supervisors who will work with teachers and parents in developing the IEP and in assisting in the child's education throughout the time that the child receives BOCES services. This team remains the same throughout the child's career helping to provide continuity as the student moves from teacher to teacher over the years.

OVERVIEW OF PROGRAM ACTIVITIES

The BOCES program has five levels which take the student from entry into middle school to the point where the student is ready for job placement or college. Figure 1 shows these levels and the options available at each level. Naturally, the exact services received by a given student will vary as a function of individual needs and the service arrangements made between the BOCES and the student's home district. We will first provide a snyopsis of each of the five levels, then go on to highlight certain of the components.

LEVEL I: ASSESSMENT AND PROGRAM PLANNING. Upon reaching 7th grade, a student is referred either to a resource program or to a special class, in accord with his or her IEP. In the former, students take some academic instruction in regular classes, receiving assistance in a resource room or from an itinerant teacher from one to three hours a day. In the latter, the students spend the greater part of the day in the special class, receiving there all academic instruction. While there are no rules on the

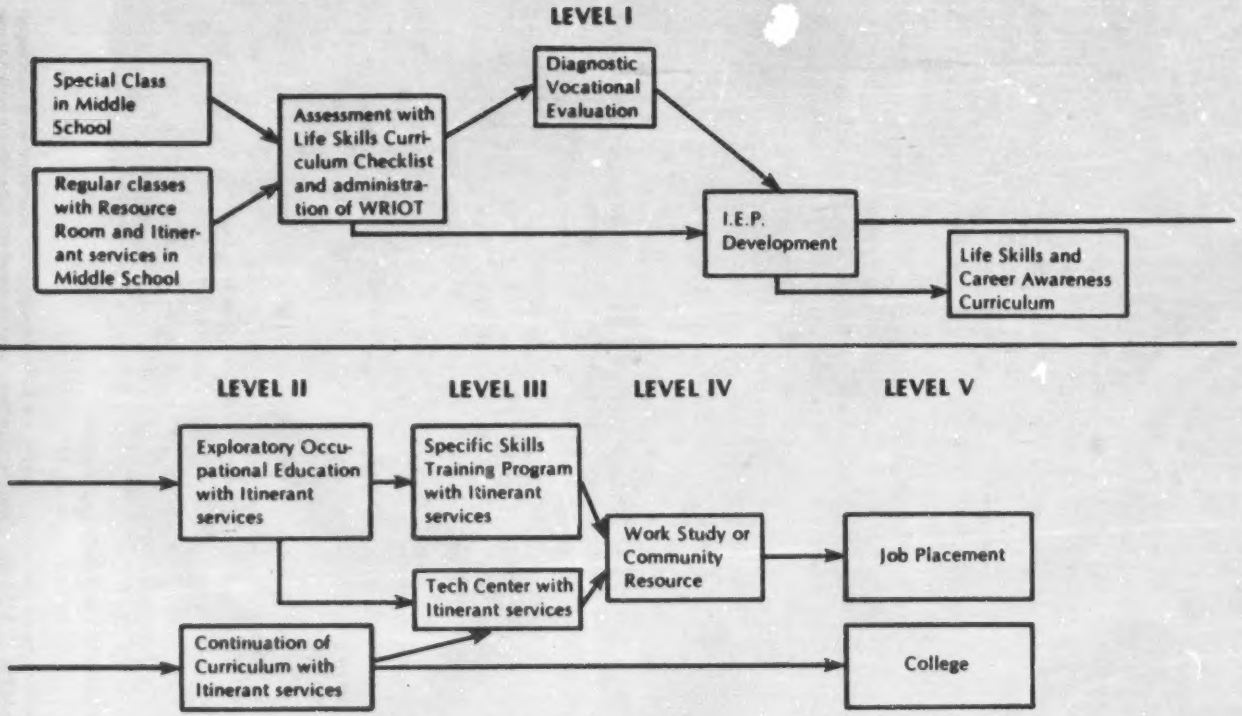
LEVEL I
Special Class in Middle School
Regular classes with Resource Room and Itinerant services in Middle School
Assessment with Life Skills Curriculum Checklist and administration of WRIOT
Diagnostic Vocational Evaluation
I.E.P. Development
Life Skills and Career Awareness Curriculum
LEVEL II
LEVEL III
LEVEL IV
LEVEL V
Exploratory Occupational Education with Itinerant services
Specific Skills Training Program with Itinerant services
Tech Center with Itinerant services
Work Study or Community Resource
Job Placement
Continuation of Curriculum with Itinerant services
College

Figure 1

CAREER DEVELOPMENT FOR THE HANDICAPPED ADOLESCENT

matter, it is usual that special class students attend vocational programs in high school, while a large number of the resource program students continue in an academic track, eventually going on to college. Each student is assessed using the *Wide Range Interest and Opinion Test* (WRIOT), which measures interest in and attitudes toward occupations from unskilled labor, to technical, to managerial and professional. A checklist of "life skills" is also completed for each hearing impaired student.* It covers everything from career decision making, to personal relationships, to home maintenance. It will be described in detail later. A student who seems likely to enter a vocational program upon beginning high school may also be tested using a *Diagnostic Vocational Evaluation* which presents increasingly complex tasks at a series of work stations. The quality of work, as well as the student's interest and work behavior all figure in the assessment, the results of which are discussed with the student immediately upon completion of the evaluation. The results also serve as the basis for a written report which is seen by parents, the student, and appropriate school personnel. Once these evaluations are completed, the initial high school IEP is prepared using these results and other information. In accordance with the IEP, the student will receive academic, career development, and "life skills" instruction in mainstream or other settings, as appropriate.

LEVEL II: OPTIONS UPON ENTERING HIGH SCHOOL. The student may either remain in the mainstream academic environment, continuing to enjoy support of the resource program and itinerant teacher, or the student may enroll in the *Exploratory Occupational Education Program.* The latter, which will be described in detail below, allows the student to try out occupations in nine clusters, while providing academic instruction related to each field. This program is designed for 15 and 16 year-olds as yet undecided as to a career. Itinerant support services are also supplied to students in the *Exploratory Occupational Education Program.*

LEVEL III: SPECIFIC OCCUPATIONAL TRAINING. Students may avail themselves of two kinds of vocational opportunities: courses at the *Tech Center,* a vocational program serving students from all 18 BOCES districts; and the *Specific Skills Training Program,* which provides specific vocational training to students for whom the *Tech Center* would not be a suitable placement. The former is a mainstream program, but with special guidance counselors who keep track of handicapped and other special needs students and provide assistance to them when necessary. Generally speaking, students from the *Exploratory Occupational Education Program* take advantage of one or the other of these options during the 11th and 12th grades. Some students formerly in the mainstream academic environment also enroll in the Tech Center. Students wishing to go on to college continue in the mainstream academic program.

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*This checklist and the associated Life Skills and Career Awareness Curriculum were developed for, and are being tried out with, hearing impaired students. Most sections are suitable for use with students having other handicaps; those sections will be used with other students once changes are made on the basis of the tryout.

LEVEL IV: COMMUNITY RESOURCE AND WORK/STUDY PROGRAMS. Upon graduation from either the *Tech Center* or the *Special Skills Training Program,* the student enters a community resource or a work/study program. The former is a volunteer work experience arranged and supervised by the work/study coordinator. Students typically spend half the day on the job for from two to five days a week; placement duration varies from a couple of months to a year. The coordinator regularly visits the work site, reviews and discusses employer evaluations and counsels students about their progress and job adjustment. In the work/study program, students spend part of the day in school and part in on-the-job training. The employer is responsible for job supervision and has the power to decide to terminate the student, to offer full-time employment, or to suggest an intermediate option. Some students are also clients of the State Office of Vocational Rehabilitation, making them eligible for counseling and other support services, including payment of part of their salaries during training. The coordinator makes sure that eligible students receive such support. These BOCES programs are exclusively for handicapped students, but handicapped students are not restricted to them—they are also eligible for regular work/study programs run by their home schools, and many take advantage of them.

LEVEL V: JOB PLACEMENT OR COLLEGE. After completing their vocational or academic programs, students move away from BOCES to enter the job market or to go on to college.

COSTS AND FUNDING SOURCE

Stipulating the costs for a program such as this is complicated by at least the following factors: (1) the kind and amount of service "bought" varies substantially from district to district; (2) the purchasing district may be reimbursed by the state for a certain portion of the expense of services, depending on a variety of factors that will not apply in the same way nationwide; (3) the district, having purchased services from BOCES, will then not have to support those services itself or the administrative structure that goes with them; and (4) the BOCES is located in an expensive area, which fact is reflected in salaries, which make up the bulk of the cost of services. Having said all of this, we can give a couple of examples. A complete resource room program for 20 children costs between $40,000 and $50,000 when purchased from BOCES, but the district will be reimbursed by the state for a substantial proportion of this expense. A special class program, including IEP development and other support services runs to about $5,400 per student, but, again, this is partially reimbursed. On the other hand, charges for help in IEP development, continuing Support Team assistance, or itinerant teacher support could be much less. BOCES staff feel that similar programs could probably be undertaken for less elsewhere, and it seems likely that exact costs would vary radically depending on a great many local factors.

SELECTED *BOCES* SPECIAL NEEDS COMPONENTS

Many of the components discussed above were developed in response to needs that became manifest as BOCES extended a full range of services to handicapped students. (Since needs do not become apparent in a neatly phased pattern, the chronology of development of special needs components does not exactly match the order of the levels in which they appear.)

The first component for discussion is the *Exploratory Occupational Education* program necessitated by the ill-preparedness of many handicapped students for courses at the *Tech Center.* For those who needed to sort out their interests and develop prevocational skills, this served as preparation for entry to the *Tech Center;* others, having gone through this program, still did not qualify for admission to the *Tech Center.* The *Specific Skills Training Program* was developed for the latter group. Upon completion of one or another of these programs, some students had acquired job skills, but still lacked some of the "life skills" they needed. Accordingly, the *Life Skills and Career Awareness Curriculum* was developed to make explicit what these skills are to help students who needed to do so to improve them throughout their junior and senior high school careers.

CAREER EDUCATION CONCEPTS

As discussed in the introduction to these program descriptions, someone interested in reducing the effects of stereotyping on career choice need not always take a "head-on" approach to attitude change. There are several features of the BOCES program that serve to address stereotypes. Perhaps the most fundamental is the assurance that handicapped students have available all of the options open to students in general, while, at the same time, making provision for meeting their special needs.

This variety of options, and the practical methods used to make them accessible address the stereotype that only a few careers are open and that handicapped people are excluded from most activities because of their disabilities. At the same time, the *Exploratory Occupational Education Program* and the *Life Skills Curriculum* deal more with what might be called "secondary effects" of stereotyping. These programs help students to become more informed about careers and to improve skills on which they may be behind. Thus, students have the opportunity to explore any path consistent with their interests and abilities, and to have timely help available along the way.

SOME PROGRAM HIGHLIGHTS

We would like to provide some details about four of the more interesting aspects of this program: (1) IEP development and use, (2) the *Exploratory Occupational Education Program,* (3) the *Specific Skills Training Program,* and (4) the *Life Skills Curriculum for Secondary Hearing Impaired Students.*

The IEP

Two aspects of the IEP process are of interest: the development of IEPs per se, and the training offered to BOCES staff in IEP development. We will discuss each briefly.

Not surprisingly, a great deal of flexibility is possible in the BOCES role in IEP development, depending on what individual districts request of the BOCES. If the BOCES is involved, the multidisciplinary Support Team will prepare the IEP in cooperation with teachers who are to implement it, whether they are teachers employed by BOCES, teachers in the home district, or both. Parents and, insofar as practical, students, also participate in preparing the IEP. Generally, the bulk of actual IEP writing is undertaken by the BOCES staff, subject to review and modification by staff of the referring district and by each student's parents. The assessment information discussed earlier, augmented as necessary in individual cases, is used in preparing the IEPs.

All BOCES staff who will be involved in IEP development are required to attend a three-session workshop which discusses the contents of IEPs, the process by which they are prepared, and the requirements for periodic IEP review and modification. This training is also open to staff of the 18 districts served by the BOCES, although it is not required of them.

The Exploratory Occupational Education Program

This program has the basic goal of helping undecided 15 and 16 year olds to find a suitable occupational field—one which the student likes, and in which success seems likely. This program serves 350 special needs students who have a variety of handicapping conditions.

Generally speaking, the student's day is broken into two parts—one spent at the Exploratory Occupational Education Center, the other at the home school. At the center, the student tries out the following occupational areas in a "live work" situation: metal trades, automotive trades, building trades, building maintenance, horticulture and floriculture, food trades, cosmetology and personal grooming, and health and personal service occupations. By way of example, students exploring metal trades "... operate various machines, use hand and power tools, perform drafting and welding ... and become aware of and practice the safety requirements in this field." Students in horticulture and floriculture "... plant, and propagate floral and ornamental plants, and perform small construction projects, (undertake) laboring jobs, and operate small equipment, hand and power tools." Students are enrolled in this program for about two years, giving them ample opportunity to find out how well suited they are by ability and interest for the various occupational areas.

The student's academic program at the home school is coordinated with activities at the center. Vocabulary, language arts, communication, math, and science are all related to the occupations the student is investigating at the center. Coordination includes consultation between special and vocational staff to provide the latter with assistance in teaching special needs

students as well as more formal inservice training for vocational staff in understanding various disabilities and methods of teaching students with those disabilities.

Itinerant teachers see each student several times a week, in either the home school or the center, as needed. Continuous communication is maintained between special and vocational staff, and vocational planning is a joint effort of these staff, the student, and parents.

The Specific Skills Training Program

This program follows the *Exploratory Occupational Education Program* in sequence and format. Handicapped students in this program have generally come through the exploratory program and are ready for specific occupational training, but cannot be properly served at the Tech Center or in a regular cooperative work/study program. At any given time, from 75 to 80 students having among them a wide variety of handicaps are enrolled in the program.

A student spends half of the day in the *Specific Skills Training Program* and the balance at the home school or in a special education class. This program is designed to teach the student specific marketable skills and to instill an effective working style, adequate speed and endurance, and other traits desirable on the job. There are four occupational "strands":

AUTOMOBILE MAINTENANCE in which are taught the skills generally required at a service station—pumping gasoline, car washing and waxing, lubrication, wheel balancing, and similar skills.

BUILDING MAINTENANCE in which are taught wood finishing, furniture repair and maintenance, basic painting, carpentry and plumbing, general cleaning and maintenance, and proper use of tools and machines.

FOOD SERVICE in which are taught baking and cake decoration, short order cooking, sandwich making, kitchen maintenance, food stocks, cafeteria serving, and cashier techniques.

PERSONAL SERVICES in which are taught general housekeeping, hospital maintenance, motel-hotel maintenance, and simple hospital and nursing home procedures.

A low teacher-pupil ratio (10:1) is maintained in this program, and a counselor is available at all times. In addition, the same kind of itinerant and support services available in the *Exploratory Occupational Education Program* are available in the *Specific Skills Training Program.*

The Life Skills Curriculum

This curriculum comes in the form of a booklet for use by teachers in developing an appropriate program for hearing impaired students. There are two divisions, one for Junior High or Middle School students, the other for High School students; each division contains a number of "courses." At the Junior High/Middle School level these are: (1) Group Interaction and Leadership Skills, (2) Understanding Hearing Impairment, (3) Health and

Hygiene, (4) Psychology of Study, (5) Community Service, (6) Travel, (7) Personal Relationships, (8) Drug and Alcohol Usage, (9) Career Decision Making, (10) Law and Society, and (11) Use of Leisure Time. The High School level courses are: (1) Personal Finance, (2) Outdoor Living, (3) Basic Human Sexuality, (4) Community Service, (5) Home Maintenance, (6) Career Decision Making, (7) Applications, Resumes, and Employment Interviews, and (8) World of Work.

Each course is accompanied by a general statement of purpose which is then developed into a set of "long term goals." For example, the Junior High/Middle School level Career Decision Making course has the following statement of purpose and goals:

> *Statement of Purpose:* Students will demonstrate an awareness and knowledge of the education and work worlds.
>
> *Selected Long Term Goals:*
>
> The student names categories of jobs—blue collar, white collar, service, etc.
>
> The student explains advantages and disadvantages of various categories of employment.
>
> The student names job possibilities appropriate for his/her level of ability and interests.
>
> The student names and explains the differences among various types of training for employment: college, junior college, technical schools, etc.
>
> The student expresses personal long and short term goals necessary to arrive at various occupations.

Not surprisingly, the goals included in the High School level courses are much more specific. For example, the World of Work course has the following:

> *Statement of Purpose:* This may be designed for students embarking upon a co-op experience or permanent employment. Emphasis will be placed on developing those non-technical employment skills fundamental to job success.
>
> *Long Term Goals:*
>
> The student explains the process and steps of looking for, and obtaining employment.
>
> The student expresses and demonstrates good work habits (arriving on time, completing tasks, independence, accepting criticism gracefully, and so on).
>
> The student expresses and demonstrates appropriate ways of working with co-workers.
>
> The student expresses the manner in which to work with a supervisor and demonstrate appropriate relationships in this area.
>
> The student names and explains job benefits.

Clearly, this organization allows for a great deal of flexibility in application. Once the goals on which students are weak have been ascertained, the special class teacher can teach units on those that are problematical for the bulk of the students, or prepare individualized exercises in cases where only a couple of students fall short. Similarly, the itinerant teacher can set up individual lessons for the student enrolled in a regular program.

SUGGESTIONS FOR REPLICATION

One would probably not wish to copy this program entirely, preferring to select and adapt those features that are most attractive for another setting. Still, the following features would be desirable in any similar program:

PROVIDE OPTIONS SUITABLE FOR STUDENTS DIFFERING IN ABILITY. In this program, provision was made for students ranging from slow learners who needed special programs to those for whom regular academic or vocational programs were the most suitable.

PROVIDE AMPLE COORDINATION AND TECHNICAL ASSISTANCE WITH EACH COMPONENT. In the case of BOCES, the primary agency providing this is the itinerant teacher who helps to coordinate academic and vocational aspects of the various programs and who assists vocational teachers in the technicalities of special education. However it is done, and that will vary because of a host of factors, someone should have responsibility for making sure that academic and vocational instruction fit together and that teachers receive plenty of timely assistance in working with special needs students.

COORDINATE THE VARIOUS SEGMENTS OF THE OVERALL PROGRAM. Level I leads naturally into Level II, which in turn leads nicely into Level III, which leads nicely into Level IV. Similarly, any program that extends over a series of years should be designed so that each segment picks up on the one before and does not suddenly confront the student with a whole new approach or an entirely different subject matter.

PREPARE THE STUDENT TO HANDLE ALL ASPECTS OF REALITY. Not only job skills, but life skills are of concern throughout the student's time in the BOCES program. A broad range of life skills are included, among them an understanding of hearing impairment for the hearing impaired. A basic understanding of audiometry, how to buy and check aids, issues in the education of the hearing impaired, and similar matters are critical in obtaining suitable services once school is over. Such training is important, but easy to overlook since one might assume, without thinking about it, that a hearing impaired person would invariably know these sorts of things. Not necessarily—this is no more valid *a priori* than the corresponding conclusion that everyone who wears glasses knows something about ophthalmology, retinal electrophysiology, or optics. Careful consideration, then, of the whole range of "life skills" the student will need is critical.

MODIFY PROGRAM ORGANIZATION AND STAFFING TO FIT LOCAL NEEDS. It would be most surprising if circumstances in your organization did not vary substantially from those of BOCES. Only local staff can

determine which components of this program are most needed, how they can fit most easily into existing administrative structures, how present staff skills can most productively be used to implement them, and what kinds of program or staff expansion are possible. However these issues come to be resolved, and there are likely to be so many variations as to make speculation here pointless, attention to the above suggestions for replication should make for successful undertakings in programs with a wide variety of staffing and administrative arrangements.

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YOUR SAVI/SELPH

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Trying to identify a common characteristic among people in the sciences and related fields is a highly risky venture. But, if one took the risk, perhaps the least chancy bet would be that somewhere, somehow, each person became curious, intrigued, and stimulated at the prospect of teasing a new (perhaps temporary) "truth" from nature, or of putting some of nature's truths to work. Everything about SAVI (Science Activities for the Visually Impaired), SELPH (Science Enrichment for Learners with Physical Handicaps), and the *Science Career Workshop for Physically Disabled Students* contrives to provide that "somewhere, somehow." These three closely related ventures, all conducted at the Lawrence Hall of Science in Berkeley, California, give handicapped students the chance to learn some of the facts of science, how scientists gain knowledge about the world, and what some of the career options are in science and related areas.

But what of students who may lack the talent or inclination to pursue science? They have the opportunity to learn some of the facts of science, to gain basic academic skills, to learn some practical skills for everyday life, and to acquire critical habits of mind so useful in many fields.

GOALS OF THE PROGRAM

The nine instructional modules developed by the SAVI project have the following overall goals: (1) to teach students the content and methods of science and to help them become independent thinkers—curious, inquisitive, and able to acquire new knowledge by testing their environment, and (2) to integrate practical skills useful in everyday life as well as basic academic skills into the science curriculum, using it as a motivating factor in teaching these more general skills. To these, Project SELPH adds a third goal: to integrate the handicapped youngster into the mainstream environment, fostering an improved self-image and increasing the confidence handicapped students feel in their ability to participate in and contribute to society.

The *Science Career Workshop* has two objectives: (1) to acquaint physically disabled students with careers in scientific and technological fields and, through discussions with physically disabled role models, to learn about academic preparation, job responsibilities, and ways to overcome obstacles; and (2) to give students a chance to participate in a variety of challenging, hands-on, multisensory experiments presented by local companies, thus giving students a chance to learn how science can be applied in practical ways.

TARGET POPULATION

SAVI instructional modules were originally designed for visually impaired students in grades 4-6. As part of the SELPH project, adaptations are being made in the materials to facilitate their use by orthopedically impaired and learning disabled students. The *Science Career Workshop* was designed for visually impaired, hearing impaired, orthopedically handicapped, and learning disabled junior and senior high school students.

BACKGROUND AND DEVELOPMENT

The Lawrence Hall of Science on the Berkeley campus of the University of California maintains a *Center for Multisensory Science Experiences*. This center provides a wide variety of program development, curriculum development, and leadership training services to groups interested in a multisensory approach to science education for all, with a special emphasis on the needs of physically handicapped students. The SAVI materials were developed by the center using funds supplied by the Bureau of Education for the Handicapped, a branch of the United States Office of Education. Materials were subjected to a nationwide field test. During the field test it quickly became apparent that students with disabilities other than visual impairments could use the materials to good effect, as could nondisabled students. A second grant, Project SELPH, was obtained to capitalize on this finding. Project SELPH includes: (1) the modification of SAVI materials to make them more suitable for orthopedically handicapped and learning disabled youngsters and (2) the development of "Classroom Science Learning Centers" for joint use by handicapped and nonhandicapped children in regular classrooms. The latter aspect of SELPH takes advantage of the fact that the SAVI materials are not "special education" materials but are, rather, science classroom materials, perfectly suitable for nonhandicapped children, but consciously designed so that handicapped children can use them as well.

The *Science Career Workshop,* hosted by the Lawrence Hall of Science, was the second such program in Berkeley. The first, held in 1978 at Berkeley High School, was so well received that, when the original organizers were unable to take on similar responsibilities a second time, a Project SAVI staff member offered to organize the workshop.

STAFFING, MANAGEMENT, AND SCHEDULING

SAVI/SELPH materials are designed to be used by groups of up to four students at a time, under the guidance of a teacher, an aide, or, perhaps, a more advanced student. Various arrangements can be made to assure this close attention. Aides and advanced students were already mentioned—two teachers could share classes, SAVI could be used by an itinerant or resource room teacher, or, if students are mature, the bulk of the class could work on other assignments while the teacher worked directly with those students doing a SAVI activity. Each activity is designed to

take about 45 minutes in what might be called its "basic" form. This can be extended substantially if the teacher elects to undertake the often extensive "going further" activities. Time required will also be affected by such factors as the speed with which students grasp concepts and their skill in using the various pieces of apparatus.

The *Science Career Workshop* requires a coordinator to solicit participation from businesses, to publicize the workshop, to solve transportation problems, to schedule adequate space and equipment, and otherwise to make sure that the day goes smoothly. This person may or may not need assistants, depending on the size of the undertaking. Some specialized help may be needed on the day of the workshop itself—oral or sign language interpreters for hearing impaired participants are the most likely to be needed, but the coordinator should be careful to identify any others needed as well.

FACILITIES, MATERIALS, AND COSTS

An ordinary classroom provides all of the facilities needed for using the SAVI/SELPH materials. The materials for each activity may be thought of as having two distinct components: (1) a "folio" providing detailed written instructions for the teacher on the conduct of the activity, and (2) a set of student-use materials. (Note that the folios do *not* include student-use materials.) Efforts are being made to secure commercial publication of the activity folios and associated student-use materials. At this writing, activity folios are available from the Lawrence Hall of Science. For $6, one receives the folios for activities that make up two or three modules, depending on the modules ordered. (For further information about availability, please contact the Lawrence Hall of Science at the address listed at the end of this description.)

Facilities requirements for the *Science Career Workshop* will vary substantially depending on how many attend and the nature of the demonstrations. General constraints in either area should be identified in planning so that companies can arrange demonstrations that can be accommodated. Companies putting on demonstrations should provide the necessary supplies.

AROUSING INTEREST AND WORKING TOGETHER

Some handicapped children are intellectually talented and might enjoy the stimulation and satisfaction of a career in the sciences or in related fields such as engineering, food processing, electronics fabrication, technical writing, or science journalism. For such children, SAVI/SELPH classroom activities may prove to be just the thing for spurring interest and getting them started—this arousal of interest is, in a sense, a career education concept latent throughout SAVI and SELPH. For the sciences and other highly intellectual occupations, it may well be *the* most important career education concept.

But, of course, SAVI/SELPH activities lead naturally to more explicitly career-related follow-up activities such as field trips to locations where scientists and engineers work, guest speakers, class or individual projects on technological applications of scientific principles, and so on. The *Science Career Workshop* is strictly career education, giving students a chance to meet with people from industry, to find out something about applied science careers, and to try their hands at various job-related activities.

Stereotypes are addressed from many angles. In undertaking SAVI/SELPH classroom activities, handicapped students learn by doing that science is open to them. Moreover, since these activities are perfectly suitable for nonhandicapped youngsters, other children can learn firsthand the capabilities of their handicapped peers. A similar duality exists at the *Science Career Workshop*. Students have the chance to discuss the realities of training and work with disabled scientists and engineers, emphasizing by example that the sciences are open and allowing "people who have been there" to answer the tough questions that students may have. Industry representatives, in their turn, often come away with a new appreciation of an inadequately tapped pool of talent.

THE SAVI ACTIVITIES

The SAVI activities, being adapted by Project SELPH, are grouped into nine modules. These are listed in Figure 1, along with a brief description of the science content of each activity. Each activity combines basic science with language exercises and applications of scientific concepts to everyday situations. We will describe the general organization of SAVI activities, then highlight a few of the ways in which they can help students to gain skills beyond science per se.

Organization of SAVI activities

As already noted, SAVI activities are organized into modules, each of which covers one general content area. The order in which the activities within each module are listed in Figure 2 constitutes a logical order for presentation, but each activity is completely by itself and other orders can be used. The folio describing the conduct of each activity contains the following sections:

OVERVIEW, presenting a synopsis of the activity.

BACKGROUND, providing basic information pertinent to the activity. As necessary to set the scene for the teacher, this section explains basic scientific approaches, defines terms, discusses specific science content related to the activity, or points up practical uses of the topic addressed in the activity.

PURPOSE, listing the specific student objectives.

MATERIALS, listing what is contained in the SAVI package of student-use

materials as well as materials to be gathered by the teacher. The latter are generally standard classroom supplies.*

ANTICIPATING, providing practical tips for the teacher. Included are warnings about potential messes, mishaps to avoid (do not pass magnets near any video tape, for example), difficulties students may have in using equipment, and like problems. Also included are more "positive" tips for getting the most from the activity. This section might have been called "Experience Speaking."

DOING THE ACTIVITY, providing step-by-step procedures for reaching the educational goals listed in the *Purpose* section. This includes everything from directions for manipulating the equipment to key questions to use in probing for student understanding. These procedures should, of course, be modified by each teacher to correspond to the capabilities of the students in his or her class.

FOLLOW-UP, offering new challenges and questions that the teacher can use to determine how well the students understand the content of the lesson. The *Follow-Up* items, if used as intended, should be fun and children should not even realize that they are being "tested."

GOING FURTHER, suggesting activities that take the students out of the classroom to generalize their findings in new surroundings. This section also suggests further activities for use in the classroom.*

LANGUAGE DEVELOPMENT, including a "Vocabulary" section which gives formal definitions of the terms used in the exercise, and a "Communication Skills" section which provides suggestions for improving writing and speaking.

LIVING SKILLS/SKILLS FOR EVERYDAY LIFE, includes practical applications of the principles learned, suggested field trips, excursions around the school grounds, and activities that can be undertaken at home.

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*The equipment needed for some SAVI activities can be obtained, built, or improvised locally without much trouble. Perhaps the majority of the activities, however, *especially if used with visually impaired students*, require one or more pieces of equipment especially developed as part of the SAVI Project.

Figure 2

SAVI MODULES AND ACTIVITIES: SCIENCE CONTENT

MODULE	*ACTIVITIES*
Scientific Reasoning Module. Activities in this module are designed to help students develop skill in making observations and processing the information they obtain from those observations. These activities are concerned with the concepts of *variables* and *controlled experimentation.* Students will learn how to look at an experiment, find out what variables are involved, and decide whether or not an experiment is controlled (i.e., all variables but one remain fixed). These concepts can be applied to everyday problem-solving in a variety of ways.	*Jump It.* Youngsters investigate variables that might affect the distance they can broad-jump and use metric measurements to record distances. *Howdy Heart.* Youngsters investigate the effect of exercise (the variable) on the rate at which their hearts beat. They use stethoscopes for listening to and counting heart beats. *Balloon Rockets.* Youngsters investigate the variables involved in determining how far a balloon rocket travels along a flight line. Youngsters also make predictions and control variables to achieve specific outcomes. *Ice Cube Keeper.* Youngsters carry out an experiment to determine which of three kinds of insulation is best for preventing an ice cube from melting. They then design a controlled experiment to determine the effect of the amount of one kind of insulating material on the rate of melting. *Plane Sense.* Youngsters experiment with three variables that affect the outcomes of plane flights along a flight line. They make predictions, control variables, and manipulate them to achieve specific outcomes. *Rafts.* Youngsters determine the largest number of washers that each of three floating rafts of different thicknesses can hold before capsizing. They gain further experience with the concept of *variable* and the use of predictions and controlled experimentation to help solve a problem.

Drive-a-Nail. Youngsters observe the effects falling weights have on nails placed upright with their points sticking into a styrofoam block. They determine the variables of the nail/weight/block system, predict the effect of changing one variable, and carry out controlled experiments to test their predictions.

Slide the Sled. Youngsters identify and manipulate variables involved in determining how far a sled slides in a sphere/sled system. They explore the concept of *compensating variables* and carry out a controlled experiment.

Measurement Module. Activities in this module challenge students to: (1) realize the necessity for *standard units* of measurement; (2) use the SAVI meter tape to measure objects in *meters* and *centimeters;* (3) learn to measure angles with the SAVI protractor; (4) refine manipulative skills by using instruments to measure liquid *volume* and *capacity* in *liters* and *milliliters;* (5) learn to use a *balance* to weigh objects in *grams;* (6) use the SAVI *thermometer* to make accurate temperature measurements in *degrees Celsius;* and (7) use angle and distance measurements to pinpoint *positions.*

The First Straw. The youngsters use "soda-straw rulers" to measure objects and, in the process, realize the need for *standard units* of measurement. Then they learn to use the SAVI meter tape and measure objects as well as their own height and arm span in *meters* and *centimeters.*

The Right Angle. In this activity, the youngsters measure angles using nonstandard "pieces of pie" as a unit of measurement before using a protractor marked in degrees. They apply this skill to solve a "trajectory problem" involving "Blasto, the Human Cannonball."

Take Me To Your Liter. First, the youngsters measure fluid *capacity* in "vialfuls," and then begin using the standard metric units *liters* and *milliliters* to measure fluids accurately.

Weight Watching. After discovering that paper clips are not a uniform or standard unit of measurement, the youngsters are introduced to the units *grams* and *kilograms* through challenges involving the use of a balance, plastic gram pieces, and a 1-kg weight.

The Third Degree. The youngsters learn how to use the SAVI thermometer to measure temperature in degrees Celsius. They also keep track of data on a record sheet to test predictions and compare experimental outcomes.

Figure 2 *(cont'd.)*

Measurement Module *(cont.)*	*Point to Point.* This activity challenges the youngsters to pinpoint *positions* in "Peg-Board Park" by plotting distance from a *reference point* at a certain angle from a *baseline.* They make a large triangle on the floor out of string and tape by "plotting" the coordinates (i.e., angle-distance) you give them.
Mixtures and Solutions Module. Activities in this module are designed to help students: (1) learn to separate mixtures and identify the properties of materials that allow them to be separated from a mixture; (2) learn that a solution is a combination of materials and a liquid that will pass through a filter paper without leaving a residue; (3) use evaporation as a technique to find out how much solid material is in various solutions; (4) make predictions on the concentration of solutions and test their predictions by allowing the liquids to evaporate; (5) discover that a solution is saturated when no more material will dissolve in it; and (6) become familiar with interaction by observing evidence of interaction such as a fizzing and bubbling, new smells, or changes in materials.	*Separating Mixtures.* The youngsters investigate mixtures and the properties of the materials in the mixtures. They learn several methods of separating mixtures, such as evaporation and filtering. *Does It Dissolve?* This activity develops the concept of *solution.* The youngsters observe and describe four solid materials and what happens to each material when it is mixed with water. *The Saturation Problem.* In the process of exploring the concept of *saturation,* the youngsters practice the skills of measuring and transferring solids and liquids. By conducting a controlled experiment, they discover that hot water will dissolve more material than an equal amount of cold water. *Salty Water.* This activity reinforces the use of measuring skills and the concepts of *solution* and *evaporation.* In addition the youngsters are introduced to the concept of *concentration.* They are also given the opportunity to develop logical thinking skills. *The Fizz Quiz.* The youngsters utilize many of their newly acquired skills and concepts to conduct this experiment—the 'Sixty-Second Excitement.'

Kitchen Interactions Module. Activities in this module provide students with the opportunity to explore science in the kitchen through experiments utilizing substances the youngsters are familiar with: baking soda, yeast, lemons, salt, and cookies. Through these experiments, the students are able to: (1) determine and compare the acid content of several foods, using baking soda as an indicator; (2) compare the densities of solids and liquids; (3) learn about the properties and behavior of yeast; (4) compare the sugar content of a selection of cereals; (5) conduct controlled experiments to gather information about some common science concepts, and then record the data on charts and analyze results; and (6) develop manipulative and measuring skills using the SAVI syringe, balance, and volume tube.

The Acid Test. The students discover that when baking soda interacts with an acid, carbon dioxide gas is given off. They go on to discover that the amount of gas given off is directly related to the strength of the acid that interacts with the soda. The students then conduct experiments to find out the strength of the acid in a selection of common foods.

How Dense? The students test a set of "cargo" items by placing them in both plain water and salt water to see if the objects sink or float. To explain their observations, the students are introduced to the concept of *density*. They first compare the weights of equal volumes of 2 liquids, and then compare the "float/sink" behavior of solid objects in the liquids.

The Cookie Monster. The students are introduced to dry baker's yeast and challenged to "bring it to life" with warm water and food (i.e., a cookie). After the students observe that the yeast becomes active (as shown by carbon dioxide gas production), they set up a pair of experiments to determine which ingredient—sugar or flour—is responsible for the yeast activity.

The Sugar Test. After learning that yeast uses sugar as food (in The Cookie Monster), the students set up experiments to determine the amount of sugar in a selection of breakfast cereals. They mix equal samples (3 grams) of pure sugar and 2 different cereals with yeast and warm water and allow the mixtures to interact for 15 minutes. The students measure the volume of gas liberated in each case and use this information to compare the sugar content of each cereal.

Figure 2 *(cont'd.)*

Communication Module. Activities in this module deal with several aspects of sound. The specific goals and outcomes of this module include: (1) sharpening students' sound discrimination skills; (2) helping them become familiar with sound sources, sound receivers, and a technique for amplifying sound; (3) introducing the concept of *pitch*; and (4) bringing youngsters to an understanding of vibration and sound and that fast vibrations produce high-pitched sounds whereas slow vibrations result in low-pitched sounds.

Dropping In. Sound discrimination is the message of this activity. The students identify objects by the sounds they make when they are dropped. After learning to identify the objects by their sounds, the youngsters are able to send nonverbal messages by dropping the objects into a special 'drop chamber' after they have assigned a letter of the alphabet to each object.

Small Sounds, Big Ears. Youngsters work with an electric tone generator and megaphones to develop the ideas of *sound source, sound receiver,* and *amplification.* They use megaphones in combination with the tone generator in order to discover how to make a soft sound louder.

What's Your Pitch? This activity introduces one of the basic concepts of music—the variations of pitch. The youngsters explore this concept with the SAVI xylophone and a make-it-yourself kalimba (thumb piano).

Vibration = Sound. All sustained-sound sources vibrate. The students work with speaker cones, tuning forks, and a barn-door fiddle to explore this phenomenon. The rate at which a source vibrates determines the pitch of the sound it makes. You may be surprised to find that 'jumping beans' help your students make these discoveries.

Magnetism and Electricity Module. Activities in this module explore magnetism and electricity. With the help of some simple materials, the students: (1) explore some properties of permanent magnets; (2) construct and use a circuit board; (3) gain an understanding of open and closed circuits; (4) investigate the properties of insulators and conductors; (5) construct an electromagnet to study variables affecting the force of attraction; (6) apply the concepts of *magnetism* and *electricity* to build a telegraph; and (7) use this device to send word messages in code.

The Force. The students investigate *permanent magnets* in this activity. They learn the differences between objects that are attracted to magnets and those that are not attracted to magnets. They then measure the force of attraction between 2 magnets with the SAVI balance.

Making Connections. Electrical *circuits* are introduced in this activity. The students put together circuit boards and learn about *open* and *closed circuits.* Using the circuit boards, they search for *conductors* and *insulators* (i.e., nonconductors), first in a "mystery box" and then in the classroom.

Current Attractions. In this activity, the youngsters investigate the relationship between magnetism and electricity. They first wind a *coil* of wire around a bolt, and then supply the coil with electricity from a dry cell, thus creating an *electromagnet.* The students explore how the length of wire used to make the coil affects the strength of the electromagnets.

Click It. The youngsters review and apply the concepts of *circuit* and *electromagnet* to build a simple telegraph device. They send and receive messages using a 6-letter "click" code.

Environmental Energy Module. This module contains activities designed to help students: (1) become aware of the sun and wind as energy sources; (2) become familiar with the concepts of *energy source, energy receiver, energy transfer,* and *energy chain;* (3) refine manipulative skills by constructing devices to capture solar and wind energy; (4) set up controlled experiments to investigate the effects of variables on energy transfer; and (5) record data and interpret results.

Solar Water Heater. This activity introduces the youngsters to *solar energy* and the concept of *energy transfer* from energy sources to receivers. Working outdoors, they "construct" solar water heaters and conduct controlled experiments to find out which of a number of variables affect the water temperature.

Sun Power. In this activity, the youngsters use their *Solar Water Heater* expertise to investigate the effect the size of the solar water heater has on water temperature.

Figure 2 *(cont'd.)*

Environmental Energy Module *(cont.)*

The Solar Connection. This activity introduces the concepts of *energy chain* and *electrical circuit* to the youngsters who apply their knowledge of energy sources and receivers to solve circuitry problems involving solar cells, dry cells, and an electric motor. Finally, they manipulate various "links" in the energy chain to discover how they are interrelated.

Blowin' in the Wind. The youngsters construct pinwheels to locate and investigate the wind as an energy source. By counting the number of revolutions the pinwheel makes, they are able to compare the relative amounts of energy transferred from different sources to the pinwheel.

Wind Power. The youngsters use a large and small pinwheel to compare the amount of *work* (i.e., lifting "paper clip weights") each pinwheel can do using a variety of energy sources.

The Structures of Life Module. The activities introduce youngsters to a number of living organisms and offer them an opportunity to interact with them in a mix of open-ended explorations and more structured activities. This module provides an opportunity to 'put some life into the educational program.'

The primary goal in this module is to provide students with experiences with both plants and animals. If students get nothing more than the opportunity to explore and handle a variety of different organisms, part of the purpose of this module has been met; however, another goal of this module is to help them learn something about the organisms they explore. The two major concepts that students approach in this module are *growth* and *behavior*. The former is developed with plants and the latter with animals.

Origin of Seeds. Youngsters conduct a seed hunt by opening fresh fruit, locating seeds, and then describing and comparing seed properties.

Seed-Grams. Youngsters record information (i.e., the number of seeds in a pod) on a histogram board, interpret the data, and use it to make predictions.

The Sprouting Seed. Youngsters examine and sort a variety of seeds and investigate the effect water has on them by setting up a seed-sprouter and observing the changes over a period of one week.

Growing Further. Youngsters examine germinated seeds to determine their general properties and the differences in their growth. They set up an experiment to observe the complete life cycle of a bean plant and to study the role of the cotyledons in plant growth. Observations continue for one month.

Roots. Youngsters experiment with vegetable roots (e.g., turnips, beets, radishes, carrots) to determine if and how they will grow. They plant the roots in various ways, monitor the experiment for 10-14 days, and draw conclusions from the results.

Meet the Crayfish. Youngsters discover some of the structures and behavioral traits of the crayfish. They establish a feeding and maintenance schedule for the organisms.

Crayfish at Home. Youngsters learn more about crayfish behavior by using a special recording technique to keep track of where the crayfish spend their time within their habitat. Observation continues up to 5 days.

Snail Pull. Youngsters experiment with garden snails in order to assess their ability to pull weights while moving on differently textured surfaces.

Figure 2 *(cont'd.)*

Environments Module. Activities in this module introduce youngsters to the concept of *environment* and provide them with a means of discovering which factors in an organism's environment make it a suitable place to live. During the course of their investigations, the students will find that different organisms require different types of environments, and that a good environment fosters growth and survival. The activities in this module are designed to help students experience several different environments, conduct controlled experiments in order to find out which environmental factors (variables) influence the growth and behavior of organisms, make investigations in an outdoor environment, and gain an understanding of the concepts *environment, environmental factor, tolerance,* and *controlled experiment.*

Environmental Plantings. In this activity, the youngsters investigate one environmental factor: the amount of moisture in the seeds' environment. They set up three planters that are identical in all respects but one: the amount of water that is added to each. After a growing period of one or two weeks, the youngsters observe the results and draw conclusions about the water requirements of seeds.

Sea What Grows. Farmer Smith wants to irrigate his fields of beans and barley with sea water. Can this approach succeed? The youngsters set up a series of experiments, watering sample crops with varying concentrations of salt water. They attempt to grow plants in salty environments, and learn about salt-tolerant plants in the process.

Isopods. Isopods are comely little creatures that have definite environmental preferences. The students conduct a series of experiments to determine the proper living environment for this organism.

The Wanted Weed. In this activity, the students go outside to a weed patch and dig up weeds in an attempt to find one that fits the description they have been given beforehand. While searching for *the wanted weed,* the youngsters have the opportunity to become familiar with a weedy outdoor environment.

Skills Beyond Science

SAVI/SELPH activities lend themselves well to many things beyond science. Figure 3 presents a sampler of specific skills and associated activities. More generally, the following kinds of skills are among those that can be learned:

ORAL LANGUAGE: (1) listening to develop auditory discrimination and sound-symbol correspondence needed for reading and writing; (2) listening for comprehension in order to follow instruction, to interpret information, to recall sequences of ideas or events, or to compare events to arrive at conclusions; (3) speaking to express thoughts and arguments with completeness and clarity, to use clear descriptive language in giving formal or informal reports of observations, to explain and demonstrate, and to give directions.

WRITTEN LANGUAGE: (1) developing a specific reading vocabulary associated with science; (2) developing a better understanding of the structure of language; (3) learning how to read charts, graphs, scales, and other record sheets; (4) learning how to use reference works; (5) preparing compositions describing the outcomes of experiments and offering explanations of results; and (6) preparing directions for others who might wish to undertake similar experiments.

MATHEMATICS AND COMPUTATIONAL SKILLS: (1) understanding numbers and computing answers to simple problems; (2) understanding and using graphs and charts; (3) understanding the use of numerical values for weight, volume, and dimension, including the importance of standard units of measurement; and (4) understanding proportional reasoning.

GENERAL APPLICATION SKILLS: (1) developing organizational skills in sorting and classifying items, arranging work spaces effectively, and keeping records of observations; (2) improving perceptual-motor skills, including fine and gross motor skills, and the mobility skills needed to get around in the environment; (3) developing social skills in communicating effectively, developing favorable relationships with teachers and peers, and, through these, enhancing one's self-concept; and (4) gaining prevocational skills by learning to follow directions, to accept responsibility, to take initiative, and to work cooperatively with others.

Figure 3

A SAMPLER OF SKILLS BEYOND SCIENCE CONTENT

Oral Language
Auditory discrimination and sound-symbol correspondence

In *Dropping In*, an activity in the "Communications" module, the students explore their ability to discriminate between sounds. They listen to the sound made by an object that is dropped into a cardboard "drop chamber," and then attempt to identify the object. Students take turns dropping and identifying objects to develop accurate sound discrimination.

The second part of the activity is devoted to developing a code system. The students assign letters of the alphabet to the objects they have been dropping. Then, using this "clatter-thump-clatter" code system, the youngsters "send" messages to one another by dropping a series of objects into the chamber. The code can be made more elaborate, of course, allowing students to use a code system that includes digraph blends, for instance.

Interpreting orally presented information in light of principles learned

The following game is suggested as part of *How Dense?*, an activity in the KITCHEN INTERACTIONS module.

Play a game of "what if . . . " with the youngsters. For instance, ask:

- "What if life preservers were denser than water?"
- "What if people were less dense than air?"
- "What if fish were less dense than water?"
- "What if ice were denser than water?"

Written Language

Developing a reading vocabulary associated with science

At the end of each activity is a vocabulary list containing words related to science content and the scientific method. The following appear at the end of *Ice Cube Keeper*, an activity in the "Scientific Reasoning" module.
Variable: something that can be changed and that might affect the outcome of an experiment or activity.
Prediction: making a choice based on knowledge.
Controlled Experiment: an experiment in which all variables except one are constant (fixed).
Insulator: a material that prevents heat from being transferred to something.

Preparing compositions and understanding the structure of language

The following are included with *Current Attractions*, an activity in the "Magnetism and Electricity" module.

- Suggest that the students write down ways they could use an electromagnet to do work for them.
- *Electromagnet* is a word made up of the prefix *electro-* and *magnet*, and denotes a magnet powered by electricity. Challenge the students to think of other prefixes and roots that may be combined in a similar way. Some examples are *tele-vision, tele-phone, micro-scope, hydro-thermal, milli-meter,* and *kilo-gram.*

Figure 3 *(cont'd.)*

Mathematics and Computation	
The importance of standard units of measurement	In *Weight Watching*, an activity in the "Measurement" module, the youngsters use a *balance* and paper clips to determine how much a washer weighs. They find out that paper clips are not a good standard unit of measurement, because not everyone uses paper clips of the same size or weight. The *gram* (g) is introduced as a *standard* unit of metric measurement. Plastic gram weights are used with the balance to weigh the washer and several other objects in grams. The youngsters also measure and weigh 50 milliliters of water. They discover that 50 ml of water weighs 50 grams. From that information, you help them infer that 1 ml of water weighs 1 g. The youngsters use this information to make a kilogram weight out of 1 liter of water in a plastic container. The importance of standard units of measurement for making everyday purchases can also be brought out.
Understanding and using graphs and charts	*Seed-Grams*, an activity in the "Structures of Life" module, introduces students to a method of recording information: the *histogram*. The information recorded is the number of times an event occurs. In *Seed-Grams*, the students count the number of peas or beans in an assortment of pods and record the individual totals on a histogram. This histogram thus generated is then used to interpret the information that was gathered. Both the range of the number of seeds found per pod and the number of pods needed to get a given number of seeds are determined from the histogram information.

General Applications Skills

Getting about in the environment

The following is part of *The Force,* an activity in the 'Magnetism and Electricity" module. Bring a magnetic compass and show the youngsters how to use it for finding directions. Have them find out how the compass reacts to a piece of steel and to another magnet. Ask the students why they would not want to set the compass on the hood of a car.

Sorting and classifying

Throughout *Separating Mixtures,* an activity in the "Mixtures and Solutions" module, the students are developing skills in sorting, pouring, stirring, using a screen, and folding and using a filter. You might have the students make some tea from loose tea and ask them how a tea bag is like a filter. Have them make some lemonade from fresh lemons and use a screen or filter to remove the pulp.

THE SCIENCE CAREER WORKSHOP

This one-day workshop drew 126 visually impaired, orthopedically handicapped, hearing impaired, and learning disabled children to the Lawrence Hall of Science. During their day at the hall, students participated in a series of 30-minute "hands-on" experiments provided by twelve San Francisco Bay Area companies. The purpose of these experiments was to give students firsthand experience in applying science in practical ways. Among the experiments were the following.

STAUFFER CHEMICAL put the students to work making their own push-up containers of anti-chap lipstick. Students weighed ingredients, combined them, and poured them into homemade containers.

TELESENSORY SYSTEMS, INC. captivated visually impaired students by helping them to "see" a laser beam with their ears. Telesensory Systems also provided a braille-readout computer terminal for use with a computer demonstration set up by another company.

CHEVRON, U.S.A., INC. presented a "hands-on" version of the Broadway smash hit "Grease" in which students got a chance to find out how lubricants work.

THE CLOROX COMPANY challenged youngsters to use all their senses to observe endothermic and exothermic chemical reactions. Sight (or photosensors), hearing, and touch were all used to detect these kinds of chemical reactions.

In addition, noontime panel discussions for students in each disability group gave students the opportunity to meet with similarly disabled scientists to discuss career options, job responsibilities, preparation required, and possible obstacles to training and career entry. Students were able to talk through their concerns and anxieties to find out what preparation for a science-related career entailed and to identify sources of information about such careers.

EVIDENCE OF EFFECTIVENESS

The SAVI Project began testing materials locally in March of 1977, following this with a nationwide field test begun in September of that year. The nationwide field test included about 250 students and 60 teachers across seven sites. The sites included residential schools, special day classes, homebound programs, and mainstream classrooms. At this writing, data from the field test are still being analyzed.

The *Science Career Workshop* was assessed by asking participants for their reactions. About 70% of students filled out the reaction sheet. Of these, 93% responded favorably about the workshop. While 75% felt that the "hands-on" experiments helped them to expand ideas about possible science careers, nearly 80% felt that the panel discussions promoted greater awareness of career options in science and technology.

COMMUNITY INVOLVEMENT

Community involvement is not necessary in using the classroom activities, although field trips, guest speakers, and the like would make for very useful enrichment. By contrast, the *Science Career Workshop* depends critically on participation by industry and the presence of disabled scientists and engineers to serve as role models and to lead discussions on the realities of science careers.

SUGGESTIONS FOR REPLICATION

The facts of science and the scientific mode of thought are important components of modern culture with which every well-informed person should be familiar. For those who pursue a career in the sciences, it is more than that: the sciences provide immensely rewarding and challenging areas of endeavor. In replicating any of the undertakings described above, both of these features should be kept in mind. Some specific suggestions are given below. The first four concern SAVI and SELPH, the last two concern the *Science Career Workshop*.

STRESS INVOLVEMENT IN THE ACTIVITIES. The activities are designed for doing, not watching. While there might be some virtue in using them as classroom demonstrations, there is much more to be gained by having students participate as much as possible.

BE SURE TO INCLUDE THINGS BEYOND SCIENCE CONTENT PER SE. The SAVI/SELPH activities provide plenty of opportunity for gaining academic skills, language skills, and practical knowledge for use outside of the classroom. Be sure to capitalize on these opportunities and provide students with plenty of chances to learn of the importance of science and technology in modern life.

GIVE HANDICAPPED AND NONHANDICAPPED CHILDREN A CHANCE TO WORK TOGETHER. Remember that SAVI/SELPH materials are *not* special education materials. Rather, they are first-rate elementary school science activities consciously designed so that disabled youngsters can use them, not alone, but along with everyone else.

BE FLEXIBLE IN USING THE ACTIVITIES. There are many aspects to flexibility, the following are among them: (1) students vary in the speed with which they grasp concepts and the sophistication of the problems they can solve—the kinds of demands placed upon students should vary accordingly; (2) some students may, for one reason or another, prove unable to operate certain pieces of equipment—the teacher or a student partner may perform the physical manipulations in such cases, but students who cannot operate the equipment physically should give instruction as to what to do, thereby demonstrating their mastery of the relevant concepts; and (3) some activities require quite a bit of preparation in making or assembling equipment which may, depending on the circumstances, give students a valuable

opportunity to practice fine motor skills, or make the activity unreasonably drawn out—in the latter case, the teacher can do the construction in advance, allowing the students to get right on with the activity itself.

HAVE SOMEONE TAKE FULL-TIME RESPONSIBILITY FOR ORGANIZING THE WORKSHOP. This is especially important during the period when contacts with schools and businesses are being made, facilities are being scheduled, transportation is being arranged, and all of the other details are being ironed out.

MAKE SURE THAT WORKSHOP PARTICIPANTS HAVE THE CHANCE TO GET HANDS-ON EXPERIENCE AND TO TALK THROUGH THEIR CONCERNS. The workshop should provide ample time for participants to meet with disabled scientists and engineers serving as role models. (In locations where there are few scientists or engineers, technicians in the health sciences, food processing, or electronics industries may also be included. The inclusion of such people may also, of course, be motivated by a desire to show a wider range of careers.) These people can answer general questions about training required and opportunities in various fields *and* can give credible answers to questions students may have about the implications of their disabilities for securing training or employment. Since these scientists and engineers will very likely have encountered and overcome various barriers to success, their discussion of personal experiences will prove particularly valuable to students.

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COLD TONGUE ICE CREAM PARLOR*

Eaton Rapids, Michigan

It turns out that you can learn a lot in "Sundae School." At least that is what they found out in Eaton Rapids, Michigan, after special education students opened their own ice cream parlor at the high school. What began as a bright idea at a Rotary Club luncheon has blossomed into an enterprise in which academically handicapped (learning disabled) students learn a responsible working style as they gain job skills to ready themselves to move on to other job assignments in the school, and, eventually, to a work experience station in the community. As principal Richard Blett puts it, "In the colorful and pleasant surroundings of the 'Cold Tongue' they have their own exciting enterprise with which they can identify plus a program tailored to their own special needs." Notwithstanding its good-naturedness, this is a very serious program.

GOALS OF THE PROGRAM

The purpose of the program is to prepare learning disabled students for an independent, productive life. Specifically, student strengths are nurtured, the student learns how to cope with weaknesses, and the student develops skills and attitudes necessary to get and hold a job. In addition, students enrolled in Cold Tongue have become an integral part of the student body, ceasing to be the outsiders they once were. Career awareness, exploration, and preparation can all be worked in, as suitable for individual students.

TARGET POPULATION

The program is aimed at learning-disabled students, who make up about 2% of the student body at Eaton Rapids High School.

SCHEDULING AND ACTIVITIES

Insofar as possible, learning disabled students pursue academic subjects in the regular classroom. Those subjects they cannot master in the regular classroom are taught in the special education classroom. Students spend up to four hours a day in mainstream classes, and never less than two. Complementing the academic subjects is a four-phase work/study program. Following prevocational training, the program proper begins with work at the ice cream parlor in the special education classroom. From there, students go on to work at other stations in the high school, to work at other facilities operated by the school district, and finally to work experience

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*Formally Project PUNT (Programs for Undeveloped Natural Talent).

placements in the community. These students are also eligible for the regular work/study program, should that meet their needs better than the special program.

BACKGROUND, COSTS, STAFFING, AND COMMUNITY INVOLVEMENT

The Cold Tongue Ice Cream Parlor is a joint effort of special educators and the community. Before Cold Tongue started, the problem facing the school was to find a way to get learning disabled students involved in co-op and career programs and to help them gain peer acceptance. How could the students get started? How could they practice dealing with the public, establish an effective working style, and otherwise become ready to move into community work stations? Mr. Blett mentioned the problem to Mr. Bryce Thomson, Vice-President of Miller Farms, a corporation that includes a local dairy. He, in turn, suggested an ice cream parlor. The special education teacher was enthusiastic. The dairy rounded up some used equipment and provided an expert to give start-up instruction in making ice cream delicacies. Students from industrial arts, art, drafting, and other classes pitched in to get the room ready, and the enterprise was launched. Costs were minimal. The program is run by the special education teacher, so no extra staff are needed to keep the program going. If the equipment had to be purchased new at regular rates, it could have run into thousands of dollars. At present, Cold Tongue turns a profit, which funds are used for further program enrichment.

LEARNING AT "COLD TONGUE"

It is true that relatively few people earn a living concocting sundaes or making three-scoopers balance. But this is only a small part of what gets learned at Cold Tongue. In this section we describe many other things, which are useful on a great many jobs and in a lot of life's other endeavors. It is clear that a great many career education goals can easily be incorporated within the learning experiences at Cold Tongue. Certainly the student has the opportunity to become aware of many types of jobs, and to give them a try.

By way of stereotype reduction, perhaps the most important lesson learned through Cold Tongue is that the students involved are worthwhile, valuable people who can provide services and undertake sophisticated tasks in a job setting. This is a lesson for the students in Cold Tongue, the student body as a whole, staff, and members of the community at large. So, what else is learned at Cold Tongue?

SPECIFIC JOB SKILLS. Students keep up the inventory, which requires bookkeeping, checking inventory, telephoning orders, checking shipments against orders, and keeping stock straight. Among these, a practical lesson also emerges about such matters as profit, loss, and pricing. Students wait on customers, which requires getting orders straight, transmitting orders

clearly, figuring bills, making change, handling food properly, and dealing with the public. And then there is marketing, with its requirements of attractive displays, knowledge of products, and helping customers select among alternatives. Maintenance is critical since an ice cream parlor is the kind of place that should be spotless, but which can become a mess in no time. Beyond neat-as-a-pin maintenance, however, students also learn the importance of physical plant upkeep and refurbishing, engaging in such activities as painting tables, reupholstering chairs, and routine servicing of the equipment. Obviously, practical skills of these kinds are of great use on a wide variety of jobs.

ACADEMIC SKILLS AND KNOWLEDGE. Opportunities to gain academic skills with which many special education students have trouble also permeate those tasks undertaken at Cold Tongue—arithmetic, reading, and recording information are among the skills a student can develop while working. Perhaps this is best illustrated with an example. When new menus are developed, a theme is always chosen. For example, one menu was developed around the subject of "history," with sundaes named after historically important people, places, and events. In helping to prepare the menu, students had to go to the library to do research, select a sundae title, return to the classroom and write a brief paper about what had been learned, create the sundae, sell the creation, and discuss the origin of the name with customers. Thus are interwoven general academic skills, specific academic content, and career education. And, of course, by choosing varied themes, students can be encouraged to look into a great many areas from the arts, humanities, and sciences.

PERSONAL SKILLS AND AN EFFECTIVE WORKING STYLE. Since this is a real store, with a real operating schedule, important responsibilities to be assigned, rush period and minor catastrophies to be dealt with calmly, and is otherwise very much like a typical place of employment, that same effective work style necessary in the "real world" is needed at Cold Tongue. Students learn firsthand the importance of showing up on time, of being well groomed, of keeping their poise under pressure, and of working cooperatively with others.

At least as important as establishing an effective working style, which is, to some extent, a reaction to negatives—a serum against just those things that especially infuriate employers—is the opportunity provided to students to blossom. Shy or withdrawn students have a chance to work the counter and to call in orders. Students of whom little may have been expected are given an opportunity to assume responsiblity for various aspects of the parlor operations. At such times they are in leadership positions, directing the work of others; at other times, they are subordinates following the orders of others, but responsible, nonetheless, for doing something upon which the operation depends. There are opportunities to exercise creativity—displays to make, new kinds of sundaes to dream up, and promotional campaigns to develop. In sum, there are ample opportunities for students to find their strengths and to develop them.

THESE KIDS FIT—THEY ARE PART OF THE SCHOOL. As special education teacher Judy Collins puts it, "It used to be that the special education room was one place in the building in which kids didn't want to be seen. My students felt cut off from the rest of the school. Now they feel a part of it and ours is the most popular classroom in the whole system . . . . At the beginning some were afraid to say anything. Now they have confidence enough to talk to other people . . . . At last I have a classroom that is filling the need." Special education students feel that they belong more—other students flock to their room whereas they formerly shunned it. Moreover, other students are getting into the act. As mentioned earlier, students from art, drafting, commercial art, industrial arts, and other classes have become involved in the program, helping with posters and murals, and otherwise working to get the parlor in shape. And the benefits show up outside of Cold Tongue itself, manifesting themselves in other areas of student life—at dances, at games, at homecoming, in conversations in the hallway. The establishment of cooperation between special education and other students, and the reciprocated appreciation by each of what the other has to contribute may be the most important outcome for which a program such as this can strive. Perhaps we have saved the best thing about Cold Tongue until last.

COLD TONGUE IN CONTEXT

The ice cream parlor is the first phase of a four phase work/study program designed to assist learning disabled students in finding a niche in the mainstream of community life. In finding this niche, the Cold Tongue student may become involved in the final three phases of the special program (as most do) or enter the regular work/study program if that is the more suitable. The four phases are organized to assure that students meet with success all along the way as they move into increasingly less sheltered work sites.

PREVOCATIONAL TRAINING. Prior to the four phase program, students receive prevocational training from the special education teacher. Training covers a variety of topics, some of immediate use as students enter Phase I, others for later on. Topics include: grooming, money handling and change making, handling difficult requests from customers, dealing with requests for information that is not immediately available, telephone procedures for ordering supplies, job hunting techniques, effective behavior at job interviews, and how to resolve problems that arise on the job.

PHASE I: WORK STATIONS WITHIN THE SPECIAL EDUCATION CLASSROOM. This may be one or two hours of work in the ice cream parlor or contracted work such as stapling or ironing. This phase gives 10th, 11th, and 12th graders a chance to learn an effective working style, to gain social skills, and to master specific job tasks under close supervision.

PHASE II: WORK ASSIGNMENTS ELSEWHERE IN THE HIGH SCHOOL. With Cold Tongue still their headquarters, students move to other jobs within the building. This gives them a chance to try out their growing

abilities on a new job under a new supervisor, but in a basically familiar environment. This arrangement, of course, also makes it easy for special education staff to keep tabs on student progress, and to lend a hand right away should problems develop. This phase is open to students in all three grades, contingent only upon performance in Phase I adequate to make Phase II success likely.

PHASE III: WORK ASSIGNMENTS AT OTHER SCHOOLS IN THE SYSTEM. Juniors and seniors who have progressed in Phase II to the point where continual close supervision by special educators is no longer necessary now assume duties for 1 to 3 hours a day at another facility run by the school district. They still report to the special education teacher at the high school so they are not cut off from their home base although they become more independent of it.

PHASE IV: COMMUNITY PLACEMENT. In this phase, seniors assume full-time work/study placements. An effort is made to place students in jobs with some prospect for continuation after graduation. Contracts may be initiated by school or district staff, parents, or students, although the Educational Planning Committee, which is generally responsible for IEPs, does make recommendations as to jobs for which the student may be suited. On-the-job supervision is the responsibility of special education staff who make the final employment arrangements, brief the employers on students' abilities and limitations, and help in overcoming whatever problems may arise on the job.

SUGGESTIONS FOR REPLICATION

Obviously there is more to this program than selling ice cream, and, just about as obviously, there are vehicles other than ice cream that could be used. The following seem to us to be key factors that should be preserved by anyone trying to duplicate the achievements of the Cold Tongue Ice Cream Parlor.

FIND AN ENTERPRISE IN WHICH STUDENTS ARE NATURALLY INTERESTED. Ice cream is hard to beat, but another kind of snack bar, a bicycle repair shop, an odd-jobs employment service, a skate sharpening service, or any of a number of other ventures might work out. You know your area and your students best, so it is up to you to figure out what is most likely to work.

BE SURE THAT THE ENTERPRISE IS *NOT* "SELF-CONTAINED." One benefit of Cold Tongue is that it involves special education and other students with each other, allowing the former to provide something that the latter want and value. Another key feature is that the parlor is the first step of four, the fourth being placement on a job outside of the school. Moreover, in the course of operating the parlor, students had occasion to make commercial contacts in ordering supplies and in gaining other expertise they needed to run the enterprise.

DESIGN THE SYSTEM SO THAT A WIDE VARIETY OF STUDENT STRENGTHS CAN BE CAPITALIZED UPON, AND A WIDE VARIETY OF

WEAKNESSES ADDRESSED. In the course of operating most enterprises, an opportunity to learn an effective working style will certainly arise, as will chances to read or to use arithmetic. However, a little creativity will allow other skills to be gained. A student who has trouble with library research, for example, can be given responsibility for looking up information on, say, the history of bicycles, how ice cream is made, or why it is easier to skate on sharp skates than on dull ones. Such information could be used in display posters or in an advertising campaign.

REMEMBER THAT WHILE THE PROGRAM IS LIKE A BUSINESS, IT IS NOT A BUSINESS. The best student for the job is the one who stands to learn the most, not necessarily the one who is best at it. A student does not get a job and then settle in "for life." Rather, the student moves from job to job gaining as many skills as possible, thereby becoming better equipped to move away from the special environment.

MAKE SURE THAT THE BENEFITS ACCRUE TO THE STUDENTS. As mentioned before, Cold Tongue turns a profit—$2,000 a year in round figures. This money is plowed back into the program—buying things for the parlor, going out to dinner, purchasing supplies to teach grooming, and visiting an amusement park are some of the things money was spent on in Eaton Rapids. There is much to learn through these activities—the payoff from a job well done, better grooming skills, estimating the cost of various activities to decide how to use limited funds, practicing reading by studying the menu before the big meal, and on and on. There will be similar opportunities in your program.

GIVE THE COMMUNITY THE CHANCE TO BENEFIT. Cold Tongue is open when "Wayne King and His Big Band Sound" take over the school for an evening. Having the ice cream parlor open contributes to the feel of a bygone era. And, the kids get to try their hands with a new audience—an audience that forgets with whom they are dealing. Which leads to one last story: Principal Blett reports standing nearby on a Wayne King night when a customer placed an unusually elborate order. He saw at once that it was too much to keep straight, although the customer obviously did not recognize the perplexingly complex problem she was creating for the student. As it happened, the student proved likewise oblivious to the difficulty and filled the order as if it were a routine matter. Similar opportunities to get the community involved in your program are likely to occur.

These features, coupled with attention to making sure that each student meets with frequent success, should make for a very rewarding and enjoyable program for staff and students alike.

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THE SHED PROJECT, ETC.

Derry, New Hampshire

Who would want to have around a dozen or so emotionally disturbed adolescents, many of whom came from broken homes, were involved with drugs, had been in trouble with the law, were down on themselves, and could read only very poorly? Someone who needed what they had to offer, that's who. The "Shed Project" is the first phase of a three-phase program at Hood Memorial Junior High School in Derry, New Hampshire. It is designed to make sure these kids *do* have something valuable to offer. The immediate offering is a shed, but in the long term, of course, the project aims at offerings well beyond that.

GOALS OF THE PROGRAM

One purpose of the program is to develop student skill and confidence in working with tools and materials by participating in *bona fide* construction projects. More important, is the goal of improving students' attitudes, self-esteem, relationships with others, academic performance, and ability to assume responsibility as they become familiar with a variety of career options not only in construction but in related fields as well. Thus, career awareness, exploration, and, to some extent, preparation are part of this program as are a variety of personal skills important in career development.

TARGET POPULATION

The program deals with emotionally disturbed junior high school students, who, in informal interviews with staff, express an interest in participating.

BACKGROUND AND DEVELOPMENT

At one time, all handicapped students were combined in a single industrial arts class. The great range of needs present among the students proved overwhelming, and little worthwhile learning took place. Integration into mainstream classes proved to be a better solution for most students but not for the emotionally disturbed—they were placed in a special class under the supervision of a behavior specialist. The behavior specialist and an industrial arts instructor got together to develop an off-campus program for these students—Phase I: the Shed Project—in which students built storage sheds at construction sites. This has now been expanded to include a Summer Program (Phase II) and a Solar Greenhouse Project during the school year (Phase III). There are plans to expand to a fourth phase for high school students.

ACTIVITIES, MANAGEMENT, AND COMMUNITY INVOLVEMENT

In Phase I of the program, a variety of behavior management techniques are used to help students gain social skills, good work habits, and specific job skills as they construct storage sheds. Among the techniques used are: (1) involving students in setting rules of conduct and penalties for misbehavior; (2) keeping charts of behavior that show how well each student is progressing—charts are prepared both by the teachers and the students; and (3) providing a reward system that shows concretely the consequences of good or bad work behavior—the profits from the construction projects go to the students in the form of tools, but the amount of "payment" is reduced correspondingly if the student irresponsibly damages tools or materials. As to job skills, the students get to engage in real construction projects—building storage sheds at job sites. That theirs is not scaled down or "simulated" work and that it takes them away from the school for several hours each week are important motivational factors for the students. It is also important that this work involves them with the community. Finally, academic "survivial skills"—reading and practical mathematics—are learned both on the job and in the classroom as students follow written rules and procedures, master vocabulary terms, read blueprints, and make measurements and other computations in shed construction *per se*. Moreover, as an added benefit, other students build new respect for the emotionally handicapped as they see them building and selling real sheds. Indeed, in the other two phases, nonhandicapped students participate in projects as well. In Phase II, the Summer Program, Project Shed students teamed with others to develop an environmental education facility. In Phase III, students constructed a solar greenhouse at the school for use in horticultural instruction. The community is involved in all phases, both in helping the program along and in benefitting from what the students do. Community involvement takes many forms, from providing construction materials, to serving as resource people, to helping evaluate the quality of student work. These forms of involvement are described in more detail below.

COST AND STAFFING

Starting a program such as this requires a cooperation between staff with technical expertise in an occupational area and special education staff. Details as to number of staff and precise skills will vary depending on the size of the program, the nature of the work students will do, and the handicapping conditions of the youngsters involved. Costs can be modest. Although about $20,000 of CETA, district, and Title IV funds were used for the summer program, mostly to pay staff and student wages, shed construction was financed from profits realized. A $5,000 grant helped to finance greenhouse construction, augmented by supplies, materials, and expertise contributed by members of the community.

CAREER EDUCATION CONCEPTS AND STEREOTYPE REDUCTION

Within a program such as this, there are many opportunities for integrating career education concepts and for reducing career stereotypes. What are some of them?

As far as career education is concerned, students have a chance to learn something about construction careers. Depending on the student this may be primarily career awareness, career exploration, or some combination. However, through resource people, field trips, classroom activities, and the like, students can be introduced to a whole host of careers, not just those that follow immediately from the tasks they are doing. For example, in undertaking shed construction, students can learn about architecture, drafting, and entrepreneurship as well as about construction *per se*. Likewise, the Solar Greenhouse Project gives the student a chance to become interested in engineering, various sciences, and technical occupations, as well as in construction. Students can gain in self-awareness by discovering which types of activities interest them and which do not. Opportunity is also there to learn good work habits, to gain basic academic skills needed on the job, and to experience the satisfaction of having accomplished some meaningful work.

Stereotypes suggesting that emotionally disturbed students can do nothing worthwhile—a belief that peers, parents, the general public, and emotionally disturbed students themselves might hold—is addressed as students make tangible accomplishments producing high-quality, useful structures. But other misconceptions can be addressed as well—for example, that it is always undesirable to engage in anything with emotionally disturbed kids. Particularly in the Solar Greenhouse Project, other students beg to be included. In showing their competence and in gaining others' recognition of it, Project Shed students have the chance to gain in self-esteem and in awareness of their own capabilities.

The program as described below is designed to make the most of the opportunities that arise to get these things across. These lessons are not totally effective with everyone, but the opportunities are there, and the program is a creative approach to working with a sometimes very difficult group of students. Let us look into this three-phase program in more detail.

Phase I: The Shed Project

The class is organized into a crew including an overall supervisor and others responsible for safety, tools, stock, and grievances. During the course of a year, the crew builds three or four large sheds (6′ x 8′, 6′ x 10′, or 8′ x 10′), the first on campus, the rest on job sites in the community. Initial position on the crew is determined in an interview between the student and staff, in which a student "job application" is completed. Students exchange roles within the crew as the year progresses so that each has the opportunity to assume various "labor" and "management" positions. Organizational details regarding this phase are as follows.

SCHEDULE. One hour is used at the beginning of the week for instruction, evaluation, and other administrative matters. At least four more hours are used for construction; it is best if these are in blocks of two or more class periods.

INSTRUCTIONAL RESOURCES. Textbooks are omitted in favor of the following:

Student Notebooks in which are copies of rules, procedures, student evaluation sheets, handouts, blueprints, shop vocabulary lists, quizzes, and notes;

Films and Filmstrips with information on careers, lumbering, and tool use and maintenance;

Field Trips to sawmills, construction sites, lumber yards, and an architect's office to familiarize students with the "real world of work;" and

Community Resource People, such as a forester, a building inspector, a plumber, a cement contractor, and a civil engineer who work with the students on the job site as consultants and instructors.

EVALUATION. Eight kinds of evaluations are used to assess student progress in job skills and work behavior. These not only provide a record of student performance necessary for determining the distribution of the profits as sheds are built, but also give students information on their progress, practice in evaluating others, and experience in accepting others' evaluations of themselves. These methods of evaluation are:

Behavioral Management Data Chart on which outstandingly good or bad episodes are recorded immediately after they occur. For example, in one incident Bryan jabbed Gary with a 2 x 4 and Gary, holding his temper, warned Bryan to desist instead of retaliating. This was recorded both as a negative incident (fighting) for Bryan and a positive incident (avoiding a fight) for Gary. Such data serve to provide records of progress (or lack of it), and are useful in planning and evaluation.

Daily Log in which each student records personal accomplishments for the day and makes a self-rating of efficiency—this not only gives students practice in evaluating their own performance, but is also a practical writing exercise.

Weekly Student Evaluation Rating Sheet on which the student supervisor evaluates the performance of each crew member as "highly acceptable," "acceptable," or "not acceptable" in the categories of "quality," "effort," "cooperation," "attitude," and "clean-up." Each student subordinate also rates the supervisor, and the teacher rates each crew member so that discrepancies can be noted and investigated as necessary.

Progress Record Chart posted in the class on which the specific job skills mastered by each student are noted. This chart is associated with

a reward system, so that the first student to master nine skills gets a nail apron or some other small prize.

Quizzes and Performance Evaluations regarding specific job skills. Such measures are required for advancement on many jobs, making this a good practical exercise. Quizzes are given orally, while the student follows along on a printed copy; results are revealed immediately.

Instructor Evaluation Check-off Sheet, a monthly report on which the teacher records whether the student has "improved," remained "about the same," or "regressed" on each of several behaviors in the categories of "responsibility," "conduct," "attitude," and "effort."

Affective Behaviors in Vocational Areas evaluation form, completed quarterly by the instructor, on which student gain or backsliding is recorded in attitudinal areas directly related to jobs—included are such items as "accepts need for accuracy," "practices safe work habits," "demonstrates an appreciation for quality of work," and "fulfills crew management responsibility."

Customer Evaluation Report filled out by the customer after the shed is completed, with the primary purpose of seeing how the crew and its work are perceived by the community.

Encouraged by Phase I success, staff added two more phases. They are described more briefly below. Each constitutes a significant expansion from Phase I.

Phase II: The Summer Environmental Education Construction Program for Disadvantaged Youth

School staff were concerned that Project Shed students would not be able to find summer employment and drift into trouble of one kind or another—unfortunate in and of itself, and likely to undo much of the good that had been done through the project. Upon investigation, it turned out that Project Shed students were eligible to participate in the CETA Summer Youth Program, and that their skills could be used to help develop the environmental education facility planned by the Derry School District. Enrollment was expanded to conform to CETA requirements, and students went to work clearing the building site for a 24' x 24' mountain cabin, excavating, mixing, and pouring concrete footings, building a stone foundation, framing the cabin, and putting on the roof and siding. Students also built two privies, a bird blind, and a weather station, and cleared and developed a series of nature trails. Students worked a maximum of 30 hours a week and were paid the minimum wage for their efforts. This phase not only provided a bulwark against summertime backsliding, but gave students a chance to improve their job skills and work habits. Moreover, since the other CETA students were not emotionally disturbed, this gave handicapped and nonhandicapped youngsters a chance to work together as equals.

Phase III: A Solar Horticultural Prevocational Program for Students with Special Needs

There are two aspects to this phase: construction of the solar greenhouse together with the necessary greenhouse equipment, and horticultural operations in the greenhouse. Thus, this project not only expands the skills to be learned in the construction cluster, but introduces another cluster as students learn about horticultural occupations and discover interests they may have in this and related areas. And, as the greenhouse rises in the school yard, the other students engaged in more mundane projects in regular shop classes find themselves eager to become involved. They may not put it that way, but they eagerly ask to work on the same project as the emotionally handicapped students! Such "reverse mainstreaming" often takes place, providing an opportunity for the students to socialize, work together, and build respect for one another.

This phase also has the following features: (1) older students, veterans of the Shed Project, serve as role models and leaders for the new students—this includes both students still enrolled in the junior high school and senior high students who return as aides; (2) senior citizens from a nearby center work with the students in starting seedlings, planting trees, propagating plants, making flower arrangements, and conducting an open house at which plants are sold; and (3) teachers from another occupational area are involved in the project. Clearly, the behavior management techniques described under Phase I are also applicable in Phase III. However, except for the reward system, they are not used as extensively as in Phase I. The enthusiasm generated by the project serves to "manage" the behavior of most students quite adequately. The more systematic behavior management techniques are generally used only for students who have had a "relapse"—generally brought on by some event outside of school—or for those who enter Phase III directly, without having been involved in Phase I. Even in these cases, such behavior management techniques are generally used for a shorter period than in Phase I.

SUGGESTIONS FOR REPLICATION

Maybe in your district there is no great demand for sheds, and no prospect whatever of building cabins in the woods. Still, there must be a variety of worthwhile enterprises which students can undertake—building boathouses, maintaining school buses, working on urban renewal projects, and on and on. The following seem to us to be key factors that anyone setting up a similar program should try to preserve:

MAKE IT "REAL." Each of the phases of this program results in students making a product of genuine usefulness for the school, an off-campus company, or for other students in the district. The projects are not "make work." They are not simulations. There is nothing artificial about them.

PROVIDE OPTIONS. Project staff feel that having three phases makes it easier to meet student needs and to keep students interested, since they

provide a wide variety of activities in which the student can participate. To date, staff feel that the projects have helped students develop their potential, provided students the chance to experience success, stimulated and motivated students by letting them participate in realistic projects, allowed students to develop "survival skills" needed on the job, helped students to modify and improve their behavior, and improved the images of each other held by these students and others in the school.

ASSURE DIVERSITY AND RESPONSIBILITY IN STUDENT ROLES. Students should share responsibility for making rules, setting procedures, and monitoring their own performance and that of others. These things are required to some extent on most jobs and should be practiced in school. At the same time, assumption of a variety of roles gives students a chance to function in various supervisory and subordinate positions, as they will have to do in their careers.

CAPITALIZE ON OPPORTUNITIES TO LET STUDENTS LEARN ABOUT CAREERS BEYOND THE JOBS ON WHICH THEY ARE WORKING. Students had a chance to meet builders, engineers, architects, and workers in the skilled trades. They may not participate directly in many of these occupations, but the opportunity is there in a project such as this to let students learn firsthand about careers ranging from semi-skilled, to skilled, to managerial and professional. Keep on the lookout for such opportunities and grasp them when they arise.

KEEP CAREFUL TRACK OF PROGRESS AND MAKE SURE THE CONSEQUENCES OF GOOD AND BAD PERFORMANCE ARE CLEAR. Careful monitoring of student progress will help not only in determining who is entitled to how many of which kinds of rewards when—it also allows for the early identification of problems and facilitates their discussion and resolution. The clear stipulation of what constitutes good or poor performance, the consequences of either, and the fair realization of the consequences provide valuable lessons about work.

INVOLVE THE OFF-CAMPUS WORLD. There are a variety of involvements—employers at whose construction sites students work, persons skilled in trades or professions related to the work students are doing, other students, retired persons, community action groups, and others. This adds to the realism of the enterprise, and, perhaps more importantly, prepares the student for the mainstream of the work world and the work world for the student. How do you get the community involved? Project staff offers several tips: *be aggressive*—an extroverted, enthusiastic advocate is needed to find out who is interested so that, when a specific need for materials, expertise, or other assistance arises, someone can be contacted who is receptive and in a good position to assist; *become known*—the local newspaper covers Project Shed and the other phases, letting the community know that its participation is welcome; and *get involved in the community*—for example, students in this project put in a garden at a home for the elderly, one thing led to another, and now senior citizens are involved in the program—similar opportunities exist in other communities.

INVOLVE SCHOOL STAFF WITH A VARIETY OF SKILLS. Special, vocational, or academic instructors, and others can accomplish more working together than alone. In each phase of the program reported here, staff combined their skills effectively.

In all of this, remember that the *ultimate* goal is to prepare students to function effectively in the mainstream of society. In some activities described above, that meant participating with nonhandicapped students in projects; in other activities it did not. (Remember, these were the students for whom regular mainstreaming did not work.) Still, even in those activities not undertaken along with the nonhandicapped, Project Shed students were out in the mainstream world, building sheds, meeting workers, and learning directly of the realities of various futures they might consider for themselves. And, one cannot fail to note, they were giving the "real world" a chance to learn about them.

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T.I.P.S.—TO IMPROVE THE PROBABILITY OF SUCCESS

Herrin, Illinois

A teacher cannot do everything at once, and may not be able to provide all the individual attention a handicapped or disadvantaged student requires. What can be done when one of these students keeps "stubbing a toe" against problematical aspects of schooling? The answer in the T.I.P.S. program at Herrin High School in Herrin, Illinois, is to make available a "Mentor" to work with such students on an individual basis. Mentors are paraprofessionals, recruited using rigorous standards, who team up with students to tackle academic, social, or other problems that might interfere with school success. Mentors are not tutors, although tutoring is one of their roles. Going beyond tutoring, the Mentor befriends, guides, and counsels the student as the latter completes an occupational program. The assistance rendered by the Mentor is tied to specific problems the student is having in school *not* to problems that might be hypothesized to arise because of a student's disability. Moreover, Mentor services are *not* general remediation although, of course, benefits may be observed in classes other than those in which problems arose that led to a Mentor's services being provided. This specific attention to immediate problems makes the potential benefit of having a Mentor quite apparent to the student and is, staff feel, a key factor in winning student acceptance. While the T.I.P.S. Project was developed for an occupational program it could, of course, be used in other programs as well. Indeed, much of the Mentor's help in the T.I.P.S. project concerns academic subjects or basic skills.

GOALS OF THE PROGRAM

The goal of the T.I.P.S. program is to provide timely, personal assistance directly related to the specific problems of handicapped or disadvantaged students who are having a hard time making a go of it in school. Mentors in the T.I.P.S. program work cooperatively with teachers and counselors in helping students to master skills required in occupational programs, and in making a satisfactory social adjustment, so that the students become self-sufficient in school. Thus, they may be seen to supplement the services offered by the professional staff, who remain firmly in charge of the educational program.

TARGET POPULATION

Handicapped or disadvantaged students enrolled in regular occupational programs who are having trouble in one or more of the following areas: mathematics, reading, study skills, attendance, attitude, emotional control, motivation, health, communication, or incompletes. Thus, while students

are either handicapped or disadvantaged according to the state definitions, determination of whether or not a student needs the services of a Mentor is based on school problems, not on categorical designation.

BACKGROUND AND DEVELOPMENT

Project T.I.P.S. is one of 10 projects in the *Illinois Network of Exemplary Occupational Programs for Handicapped and Disadvantaged Students* which was formed in the fall of 1975. Two major ideas lay behind Project T.I.P.S. The first was the recognition that teachers and counselors—the professional staff—had so many responsibilities to the large number of students they served that they were simply unable, without compromising their other duties, to give all of the individual attention needed by handicapped and disadvantaged students. The second was the desire to provide high quality paraprofessional services to supplement those offered by the professional staff, but without causing administrative upheaval. Thus, the project was designed to fit into existing administrative structures, without disturbing the system, without creating new administrative posts, and without giving additional problems to the administration. Staff were optimistic that the approach would work, given the success they had using guidance interns from a local university in similar roles.

STAFFING, MANAGEMENT, AND SCHEDULING

The key staff in running a Mentor program are: an established administrator in the school where the program is being set up, present teaching and guidance staff, and the Mentors themselves. The administrator is the direct supervisor of the Mentors and is responsible for selecting the Mentors, helping the Mentors to render effective assistance to students, assisting Mentors in getting ready for the annual evaluation, and maintaining an optimistic atmosphere concerning the education of handicapped and disadvantaged students. Teachers and counselors retain the roles they have always had—organizing classes, guiding students in class selection, setting class and student goals, and so on. Their responsibilities also remain the same—it is still the teacher's duty, for example, to see to it that students master the course content. In addition, teachers and counselors are among the people who can recommend that a Mentor be provided for a given student. Finally, there is the Mentor, a paraprofessional who works with the student providing individualized academic help and psychological support in furtherance of the ends identified by the professional staff.

The procedure for making referrals is designed to be speedy and free of red tape—services can begin within a day of a referral and, while completion of a referral form is required for each student served, mentoring can begin *before* the paperwork is done. The majority of referrals come from the Guidance Department, with students generally being assigned to Mentors during the weekly staff meetings between guidance and T.I.P.S. staff. Arrangements need not be this formal, however, and a phone call or

informal conversation is enough to get the process started. Referrals may also come from teachers, parents, administrators, the students needing help, or peers. Most often, such referrals are made to the administrator in charge of T.I.P.S., who then sees to it that a Mentor is assigned. A Mentor who receives a referal directly, evaluates it in terms of the subject matter expertise required and the practicality of scheduling mentoring sessions given the other commitments of the student and the Mentor. If everything fits, the Mentor will accept the student. Otherwise, the Mentor will recommend to the administrator in charge that another Mentor be assigned. Finally, at the start of each year, Mentors get together with students they previously served and, if it seems necessary, recommend further services.

Mentors can, in principle, provide as much help as needed. In practice, the need for their services may range from a single assignment, such as a book report, to steady help over three years. From one-third to one-half of the students require about an hour of help two to three times a week over the course of a year; most of the rest need less. Each Mentor has a "case load" of from 10 to 15 students, most often meeting with students individually during Study Hall, although before and after school meetings, or even meetings during class periods are sometimes arranged. Small group meetings are also used, but they are less common than individual sessions.

Mentor assistance is often mentioned as a support service on IEPs, with a Mentor helping the student in those areas where the continued attention of a special educator is not needed. The Mentor, of course, makes reference to the IEP in planning instruction, and has access to special education staff should their help be needed.

MATERIALS AND FACILITIES

No special facilities are needed to conduct a Mentor program beyond some adequately private location where Mentor and student can work. Materials, too, are modest. Two program manuals, the test for selecting Mentors, and a handbook of teaching tips for Mentors are the basic requirements. They are available from Herrin High School.

COMMUNITY INVOLVEMENT

The Mentors themselves are, of course, members of the community and are the heart of the program. However, community involvement is also obtained in other ways. First, there is the Community Advisory Council which provided advice in program planning, support in getting the program approved, and assistance in evaluating and conducting the program once the project got under way. Second, there are other support services within as well as outside the school system. Various agencies, such as the special education district, family service agencies, and other groups were contacted well before their services were needed to explore the possiblity of cooperation should the need arise.

COSTS AND FUNDING SOURCE

Mentors are paid $30/day from funds supplied through the *Illinois Network of Exemplary Occupational Education Programs for Handicapped and Disadvantaged Students.* Three Mentors are available at the 1,000-student Herrin High School. Costs elsewhere will vary as a function of the number of students needing services and local salary levels. (Herrin is in a rural area of southern Illinois where salaries are relatively low.)

PROGRAM EFFECTIVENESS

A 1978 follow-up survey contacted 214 students who had received Mentor services over the previous two and one-half years. Among them, they had been failing 280 classes when Mentor services were begun, but passed 227 of them with the help of their Mentors. The great majority (181) indicated that Mentor services were of benefit when they were in school, while 152 said that they experienced a permanent gain from Mentor services. Further, 128 of the students thought that the teacher could not have handled the problem in these classes and, of the 69 who said that the teacher could have (or maybe could have) done so, all attached "if's" to their answers that could often not have been met. In a March 1977 survey, teachers likewise noted the effects of the T.I.P.S. program: 59 of 92 indicated a change in the grades of students receiving Mentor services; 42 noted a change in classroom participation; and 49 noted improved study skills. This result is better than it appears on the surface when it is noted that 9, 17, and 13 teachers indicated that the respective items did not apply to the students in question.

FACILITATING INCLUSION

The career education emphasis here is on helping students learn effectively as they prepare for careers. It also, of course, helps them to become more competent in basic skills with a corresponding increase in adaptability, an important career education goal.

There are two aspects to the approach taken which serve especially to combat stereotypes. First, the program does not offer services on the basis of handicapping condition, but on the basis of a functional problem. Thus, services are offered because of difficulties the student is, in fact, having, not on the basis of difficulties that might be hypothesized to arise because of his or her disability. Second, the program is designed to keep students in mainstream classes and to foster independence on their parts. The assumption in this is necessarily that the students are potentially capable of successful functioning in the mainstream of society and merely need some temporary help in realizing their potential. They are not, as a common stereotype has it, "hopeless cases" in need of continual support. The structure of the Mentor program is such that not only do students receive services to help them develop their capabilities, but this is done in a way that is readily apparent in the classroom so that teachers can see the gain and

revise upward their opinions of students of whom poor performance may well have been routinely expected. The frequent contacts between Mentor and teacher, described below, facilitate this latter aspect of stereotype reduction.

THE MENTORS

MENTOR SELECTION. Not just anyone can be a Mentor. Mentors selected in the Herrin T.I.P.S. program were chosen for a combination of soundness in content areas, and a host of personality traits considered desirable in working with students. Personality traits included: patience; the ability to relate academic and vocational concepts in terms students could readily understand; and the ability to accept confidences, to be sympathetic, and to be empathetic without overdoing it. Recruitment at Herrin and other T.I.P.S. sites was undertaken using advertisements in local news media and contacts with local junior colleges and universities. After a review of letters of recommendation, prospective Mentors were interviewed to assess further their personal characteristics. (This was considered adequate by Herrin staff for their rural area where quite reliable information could, they felt, be gathered in this way. More elaborate procedures might be required in metropolitan areas.) Applicants were also tested in basic academic areas using a locally developed test assessing arithmetic skills, knowledge of basic algebra and geometry, ability to read for understanding, and essay writing. To pass, applicants had to average 90% on the tests.

MENTOR TRAINING. Two weeks of training were given to those selected as Mentors to prepare them to translate the needs of the student into an effective program of assistance. Training covered methods for identifying and correcting student difficulties, teaching techniques and strategies, learning theory, counseling, content areas in which Mentor services might be needed, and mathematics and reading materials used by T.I.P.S. Since so many students have difficulty with reading and study skills, Mentors were trained to help students organize their work, to skim reading material to pick out the main topics, and to identify what needed to be reread to assure mastery. Special attention was also given to the matter of students possibly becoming overdependent on the Mentor. Mentors were instructed on how to keep required records, including the amount of time spent with each student, the "prescription" for the student, and the daily task sheet listing the steps to be taken to reach the goals indicated in the prescription.

MENTOR ROLES AND STRATEGIES. The Mentor has responsibilities both to staff and to students. For the student, the Mentor serves (as needed) as: (1) a *tutor* helping with class content, detecting learning difficulties, and assisting the student to gain basic academic skills; (2) a *confidant* supplying mature encouragement and support; (3) a *liaison/advocate* who helps the student to work out problems with teachers, the administration, counselors, or parents. For staff, the Mentor serves as: (1) an *aide* who helps students to master their lessons and deal better with the vicissitudes of schooling; (2) a

participant in staff conferences in which the needs of various students are discussed and planned for; and (3) a *record keeper* who helps to chart student progress and the actions taken to assist students to overcome academic or social difficulties.

What strategies does the Mentor have available in working with students? Answering this question hinges upon the recollection that the overall goal of the program is to move students toward self-sufficiency with the school. Accordingly, the Mentor will begin by showing the student how to do something with which the student is having trouble, perhaps even doing it for the student initially, in an effort to move through the following stages:

- The Mentor does the task—with the student's help.
- The student and the Mentor do the task together.
- The student does the task—with the Mentor's help.
- The student does the task—with the Mentor paying attention to how well the student is doing in case further help is needed.

Depending on the student and the specific problem, the Mentor may employ individual sessions, group sessions, informal contacts in the hallway between classes, supervised peer tutoring, reports and visits to parents, performance "contacts" with the student, other Mentors, guidance staff, classroom teachers, district special educators, or special services outside of the school system. Let us look at how the Mentor and student might work their way through the four stages above in remedying certain deficiencies in *study skills*, one of the areas in which students most commonly have trouble.

Problems in studying stem from a wide variety of sources including inattentiveness, disorganization, poor motivation, and a lack of understanding of why even some very basic steps are needed for doing well. For example, a student may come to study sessions without textbooks, handouts, paper, pencils, or any real idea of what the assignment is or any particular inclination to find out, let alone undertake it. In such a case, the Mentor will probably begin by asking the teacher what the assignment is, collecting the necessary materials, and planning the study session. Ultimately, of course, these are things the student should do unaided. As to motivation, just having the Mentor give this much care and attention is motivating for some students. Beyond that, the Mentor can bring in special materials that are more motivating, say because they have many pictures or because they place more emphasis on aspects of the subject that particularly interest the student than do the regular materials. Moreover, by helping the student to study more effectively, the Mentor provides the student with the opportunity to discover the pleasure of learning and the benefit of plunging into work as a relief from some of life's other pressures.

As sessions move along, the student and Mentor can work together to gather study materials and to plan the course of study sessions. These become more and more the responsibility of the student until the services

of the Mentor are no longer needed. After the student begins to work independently, the Mentor may still check in with the student, the teacher, or a counselor just to make sure that things are going well.

SUGGESTIONS FOR REPLICATION

Perhaps the most important consideration in undertaking a program such as this is to establish an effective entree with the students. This is best done by offering mentor services that are aimed directly at problems the student is having and by doing so in a concerned, supportive way. This supportive, problem-solving approach should then be continued as the student moves toward more effective, independent functioning. Some other suggestions follow.

Take great care in selecting mentors and be sure that a variety of skills is represented among them. That this is so obvious makes it no less worthy of emphasis. Mentors must be competent academically and able to work effectively with students. While it is likely that most Mentors can supply effective help in some areas—fractions, basic study skills, and so on—it is unlikely that all will be equally good in each content area. Therefore, since student problems will crop up in a variety of courses, it is best if Mentors with relatively sophisticated knowledge of various academic and, if possible, occupational areas are available. The latter may be less critical if one can judge from the Herrin experience, since students tended to have much more trouble in academic than in occupational courses. It is also very desirable to select, if possible, Mentors with special education skills particularly in teaching reading, which is a major source of difficulty for many students. Cooperation between regular and special educators to identify this and other special skills to aim for in Mentor selection is critical. Such cooperation is also desirable in training so that Mentors come to recognize and meet all student needs, for example, by arranging for notetakers for hearing impaired students who require them.

Establish effective working relationships with teachers, counselors, and other school staff upon whom success depends. It is not unlikely that some staff will fear the usurpation of their prerogatives or the denigration of their abilities when a mentor system is suggested. Fears can be allayed by having guidance and instructional staff involved in planning the mentor program, by making it clear (in *fact* as well as in words) that teachers and counselors remain in charge, and by establishing procedures by which Mentors and professional staff cooperate regularly and coordinate their efforts.

Have further support services readily available. Even as a teacher cannot do everything under the sun, neither can a Mentor. In some instances, further support may be needed, for example, from a learning disabilities specialist in the district office of special education, or from a social worker if a student's problems derive largely from an unhappy family situation. Identify sources of possible support when planning the mentor program, and work out possible cooperative arrangements before the need arises.

These suggestions, coupled with the presence of an enthusiastic administrator who sets an optimistic and encouraging tone, should make for an effective mentor program.

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KALAMAZOO "VOLUNTEENS"

Kalamazoo, Michigan

As a telephone Volunteen, Sue reminded welfare recipients of their medical appointments (and Voluntary Action Center board members of their meetings). Connie worked at a community center as a reading tutor for children. Dave developed maps at a nature center—the maps serve to help visitors identify various kinds of trees by showing where specimens are located relative to various landmarks. Each of these examples shows that helping the handicapped is, well, a very small part of the story here. By participating in the "Volunteen" program right along with others, visually impaired students in Kalamazoo, Michigan, make important contributions to their community and learn some valuable lessons about working.

GOALS OF THE PROGRAM

Too many students unrealistically limit their options, or lack basic knowledge about what work entails and the satisfactions to be gained from it. The purpose of including handicapped students in the Volunteen program is to help them become more aware of the many career opportunities available, and of the realities of work.

TARGET POPULATION

The Kalamazoo Volunteens program provides summer placements for about 800 students. Visually impaired students are included in the program, as are students with other disabilities, but they are a very small minority. This, then, is an example of handicapped students participating in a mainstream program. We will discuss visually impaired students, but the stories for others would be similar.

BACKGROUND AND DEVELOPMENT

When a proposal for a special summer program was turned down, the teacher consultant turned to the Vocabulary Action Center in Kalamazoo to see if they would accept visually impaired students in their summer program. They quickly decided they would, and the teacher consultant assumed responsibility for identifying the students to participate, for providing training for staff of the agencies into which the students would be placed, and for standing ready to "troubleshoot" should any problems arise.

MANAGEMENT, STAFFING, AND SCHEDULING

This program is designed to make use of existing resources, specifically the Volunteens program operated for all junior and senior high school

students and the "teacher consultant" approach used by the school district for teaching visually impaired students. The teacher consultant who arranged for the program also counseled students, helped to prepare special materials needed by students on the job, and rendered whatever other support was needed to assure that the student would succeed in a regular program. The teacher consultant offers similar assistance in helping students succeed in regular school classes during the academic year. In this way, each student is placed in the least restrictive environment, but with an appropriate support system available. The following steps are used to place a visually impaired student who has become interested in becoming a Volunteen: (1) the prospective Volunteen and the teacher consultant go over the booklet put out by the Volunteen program which describes the available placements; (2) the student selects those of greatest interest from a list of about 75 possible placements; (3) the student has a meeting with staff of the Volunteen program in which specific volunteer slots are discussed; and (4) the student has a meeting with staff of the agency in which he or she seeks placement and, in effect, applies. Once accepted, the visually impaired student participates on exactly the same basis as any other Volunteen and is evaluated on the same criteria as others. The process outlined here is very similar to that followed for students with disabilities other than visual impairment. To operate such a program, then, one needs to work out a cooperative arrangement with an agency providing summer opportunities. Often, the expense will be minimal. If there is no such agency that is willing to help, then substantially more effort would be involved in setting up a separate program.

CAREER CONCEPTS AND STEREOTYPE REDUCTION

Involving visually impaired students in the Volunteen program was motivated by the extremely limited nature of the options that visually impaired students saw as open to themselves and by a need felt by the teacher consultant to expose students to the realities of the working world. As he put it, exposing students to options through readings, guest speakers, and the like, is " . . . too abstract, far away, and theoretical. The student with good language skills can understand all the words . . . but he or she does not have actual experience in the world of work. For example, he or she may talk about the importance of good grooming, but come to school with uncombed hair, dirty hands, or disheveled clothing, not realizing anything about their appearance which might take away from their success." In other words, the Volunteen program gives the student the chance to learn firsthand about some of the realities of working.

Beyond that, however, students get the chance to try their hands at things they may not have thought of at all or which, had they thought about them, would have seemed impractical. The visually impaired students in Kalamazoo had, to a large extent, seen their futures as limited to working with visually impaired people. While this particular perceived limitation may not show up among all groups of visually impaired students (or corresponding perceived limitations among student with other disabilities), it is

not at all uncommon for students to have an unrealistic view of the possiblities open to them. A volunteer experience is one good way to help to undo some misconceptions.

At least as important, perhaps, is the chance for other people to come into contact with disabled students making a contribution. These people may be staff of the agencies in which Volunteens are placed, clients the agencies serve, or other students placed with the agencies. All too often, disabled people are stereotyped as burdens or, at best, as much less than full-fledged participants and contributors. This notion inevitably serves to limit opportunity in the job market and everywhere else. Therefore, that disabled people are fully capable of effective performance in this world is a point that cannot be made too often, and there is no better way of making it than by example.

KALAMAZOO VOLUNTEENS PROGRAM

As resource teacher George Ossentjuk wrote, "If all of us are honest with ourselves, we must admit that our own experience with career exploration and vocational preparation has not led us down a straight path from dream to training to job entry to fulfillment." Indeed, one must learn what the realities are, and cannot always anticipate an unremittingly grand progress from triumph to triumph. Of the visually impaired students participating in the Volunteen program, some enjoyed an unqualified success, for some the outcome was mixed, while others had unsettling encounters with some of the realities of working. Still, each learned something valuable and should be better able for the experience to find a satisfactory job niche. We will begin with the success stories.

Nancy, who is totally blind, volunteered at a school for the mentally retarded. She taught living skills and helped in the music program using materials supplied through the school district office. She was made to feel like one of the staff and experienced the satisfaction that comes from having made a real contribution.

David, a partially sighted student, worked in a library. There he cleaned and repaired old books, demonstrating the ability to work independently while following set procedures.

Sue worked as a telephone volunteer. As mentioned earlier, she made reminder calls to people on welfare. In performing this service, she made use of brailled telephone lists prepared by the school district from information supplied by the welfare agency.

Connie, who is totally blind, worked at a community center tutoring sighted children in reading. To accomplish this, she and her sister prepared flash cards with braille markings on the back and she obtained braille copies of the books the children were reading from the school district office. In addition, she could obtain help from the district office to solve whatever instructional problems came up.

In each of these cases, the student was able to enjoy the satisfaction of a job well done, while gaining good practical experience in a work setting. The brailled materials were no more than a blind person working in such a setting would normally use, making these placements realistic practice for work.

But even if things are not an unmitigated success, a Volunteen summer can bring a student face-to-face with some of the realities of work. This is a critical part of career education, and the student—handicapped or otherwise— who has experienced these realities and learned to cope with them is much better prepared for career success than the student who has not. Here are some of the realities.

IN THE MATTER OF QUALIFICATIONS. One student wanted to teach young children to swim. The problem was that he could not swim himself. In being rejected, he learned the valuable lesson that being interested in doing something is not enough—one must also be qualified. Staff counseled this young man to enter the Chrysler Automobile Assembly Program in Detroit, pursuing an interest he had in working on cars, but which he thought he could never fulfill.

IN THE MATTER OF PRACTICALITIES. One young woman wanted to work with children and, after a good deal of staff effort, a place was found for her at a day care center. Transportation, however, was not good between her home and the center; moreover, her parents had misgivings about the neighborhood. These factors combined precluded her accepting the assignment. In suffering this disappointment, she learned the important lesson that independence of access is critical for job satisfaction. (Staff also learned something about considering all the angles before plunging ahead.)

IN THE MATTER OF HAVING YOUR OWN WAY. Let's look at two instances here. Dave, our mapmaker, liked his work, but did not have *carte blanche*. Some things needed mapping, others didn't, and Dave, sometimes headstrong, was not always cooperative in doing what his supervisor thought should be done. His work was fine, and the problem had nothing to do with his visual impairment. Here, Dave learned the hard lesson that, even in a basically interesting job, you have to adjust your wishes to the requirements of your supervisor. The other case again illustrates not getting your own way, but in a somewhat more abstract sense. Nancy wanted to make a genuine contribution to the program in which she worked, but the program itself was in a state of general upheaval, making ambiguous the scope and purpose of program activities. This made it unclear exactly what she was to accomplish—in the end she felt she had done little worthwhile. In this is the lesson that organizational difficulties over which most workers have very little control may have an adverse effect on one's satisfaction.

By counseling students as they came face to face with these common realities of the working world, staff were able to give them practice in dealing with problem situations very much like those that are likely to arise during everyone's working life.

TEENAGE VOLUNTEERISM FOR HANDICAPPED STUDENTS

The opportunity for volunteering is increasing nationwide through the combined efforts of the National Center for Voluntary Action, local school districts, and the Kellogg Foundation. Efforts are being made to train Volunteens to perform vital services and to gain self-confidence and new skills. These "transitional" volunteers, so called because in the process of becoming educated they have reached the point where they need to test their emerging independence against "real-life" situations, are moving away from the atmosphere of security and supervision found in an educational institution. Yet, in a well-run program, they continue to enjoy encouragement and support while proving that their education is paying off.

Voluntary Action Centers now cooperate with high schools in several cities, and this cooperation could well be expanded. The National Center for Voluntary Action, with support from the Kellogg Foundation, is preparing a curriculum for high school use to set up classes in volunteerism, which classes can include handicapped students. Besides placement as volunteers, such a curriculum will provide for class discussion and activities dealing with work attitudes, dependability, neatness in appearance, cooperation, and the development of skill in working in groups.

SUGGESTIONS FOR REPLICATION

As mentioned earlier, the motivation for getting blind and visually impaired students involved in the Volunteen program was to give them practical experience in working—to let them learn firsthand what work is like and what is expected on the job. These considerations underlie the following suggestions.

Try to make volunteering a productive experience for everyone, but do not attempt to isolate students from reality. Students should not, of course, be abandoned to the fates, and placements should be sought that match their interests, skills, and level of self-confidence and maturity. Likewise, the agencies in which they are placed should be selected for genuine willingness to have handicapped volunteers. Still, students should be placed where they learn the importance of appropriate qualifications, of accepting less choice tasks along with the delightful ones, and of adjusting to varying degrees of order and chaos.

Make sure that necessary support services are available. This may involve training for the staff of the host agency to prepare them to work effectively with a handicapped colleague, preparatory counseling for the student, and assistance in acquiring any special materials that may be needed or in making equipment and workplace modifications. Finally, provide follow-up support by checking in periodically to see how things are going and to try to solve any problems that may have arisen. These are analogous to the services that any good placement agency provides, and contribute greatly to success.

Give the community a chance to benefit fully. By this we mean such things as media coverage to break down stereotypes of helplessness and unproductiveness—let the public see by example what "handicapped" kids are contributing. Thus, disabled students can be shown in coverage of Volunteen activities. While it may sometimes be useful to highlight disabled Volunteens, the impression given should clearly be that this is a regular program in which disabled students are full participants.

Try to work with an established program. This will not only avoid costly duplication of effort, but will reinforce the idea that the handicapped youngsters are full-fledged participants in a regular program. The object is, ultimately, to prepare students to participate fully in the mainstream of society, and it is just as well to set that tone early.

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IT'S WHAT YOU *CAN* DO THAT COUNTS!

Mesa, Arizona

The problems faced by handicapped youth and adults are not just their problems. They are also the problems of teachers, administrators, specialists, parents, counselors, and society in general. All segments of society need to be, in a sense, "desensitized" to handicaps. We must reach the point where we can look a disabled individual directly in the eye, recognize and admit her or his disability, and then accept that individual for what she or he *can* do rather than what the individual cannot do.

What problems impede the career development of handicapped people? What typical reactions do handicapped people experience from others? How do these reactions affect the handicapped person's success in life? What advantages are there to hiring handicapped people? These are the key questions addressed by an awareness workshop developed by the Mesa Public Schools and the Arizona Department of Education.

The workshop looks at the career education needs of handicapped youth which, to date, have not received enough attention. Handicapped people all too often have had to rely on luck in career planning and development, and regrettably, luck is not working for the vast majority.

GOALS OF THE PROGRAM

The major goals of the workshop are for participants: (1) to become aware of the problems in the career development of handicapped people, (2) to recognize that some version of these problems is shared by all people and that they are not unique to those with handicaps, (3) to recognize that the reactions they typically experience toward various degrees of disability are commonly experienced by others, (4) to recognize the major effects that typical reactions toward handicapped people have upon them as individuals and on their eventual success in life, and (5) to exhibit a change in attitude toward handicapped people. People who have participated in the workshop should, in turn, be able to train others.

TARGET POPULATION

The workshop is for counselors and employers, but it can easily be used with teachers, administrators, parents—anyone interested in becoming aware of the career needs of handicapped students. Some of the activities can also be used with students in the classroom.

BACKGROUND, COSTS, FUNDING SOURCE, AND EFFECTIVENESS

In the beginning, the Arizona Department of Education and Arizona State University produced the film "These People Are Working," in which four successful disabled people are shown at work and interviewed on the job. State Department of Education staff were so pleased with the response to the film that they wanted to expand on the good things that were occuring. They contracted with the Mesa Public Schools to develop a workshop around the film, providing a $10,000 budget to do the job. Mesa tried out the workshop at seven sites throughout the state, revising and improving the procedures from site to site. The response from the field was very good—particularly from the handicapped people who participated.

MATERIALS AND FACILITIES

The program is made up of a set of detailed instructional modules which provide all the directions and many of the materials needed to conduct the program as well as a checklist of equipment needed. Facility requirements are modest—a large room with tables and a screen are the basic requirements. Details about layout are included in the materials.

Each training module is packaged in its own folder complete with participant handout samples, trainer guidelines, and a "tips" sheet to help each module run smoothly. The complete training kit includes a "Trainer's Planning Manual" and individual modules on "Program Orientation," "People's Reactions to Disabilities," "The Attitudes of Others and Consequences on Disabled," "Taking Action," and "Finale." A film, entitled "These People Are Working," is also an integral part of the program and may be obtained from the Arizona Department of Education. (A comparable film or guest speakers may be substituted without disturbing the integrity of the workshop.) Just add people and it's all there!

STAFFING, MANAGEMENT, AND SCHEDULING

The program is designed to be run by a minimum of two trainers. A media specialist should be available but, if not, the trainers should be well versed in media use prior to the workshop. A secretary is necessary to assemble materials prior to the workshop, conduct registration, and prepare refreshments for breaks. A photographer might be useful for publicity purposes. A facilities coordinator at the workshop site is a key person needed to assume responsibility for adequate setup and problem-solving throughout the workshop. And, above all, handicapped resource people should be involved to help ensure the success of the program.

The program is designed as a half-day workshop but could easily be expanded. Essentially, it is a "train-the-trainers" workshop; the participants are encouraged to plan further "It's What You *Can* Do That Counts!" workshops after their initial experience.

CAREER DEVELOPMENT AND STEREOTYPE REDUCTION

A person's career development, from the first glimmering that people work and why to the job held as retirement approaches, involves a constant interplay between the individual and the environment. The more realistic and accepting the people in that environment are and the fewer stereotypes they hold, the better for the career development of those with whom they come into contact. This workshop is designed to make the environment more conducive to unfettered career development by helping employers and other key people in career development to identify common stereotype reactions to disability and to replace these reactions with a more favorable outlook. This more favorable outlook emphasizes the importance of attending to the capabilities rather than the disabilities of individuals and the realization that many disabled people can, often with very little to-do, accomplish tasks that seem to others difficult if not impossible.

THE FIVE-MODULE PROGRAM

Each module provides very detailed instructions, typically including: (1) *"Tips" for Trainers* presenting practical advice resulting from experience in using the module; (2) *Overview* outlining the purpose of the module, the instructional strategy to be used, the room layout required, and the time needed; (3) *Objectives* of the module; (4) *Resources* listing equipment, participant and trainer materials, and resource people; (5) *Procedures* detailing how the module should be taught; (6) *Optional Activities*; and (7) *Transparency and Handout Masters*. The discussions below provides an overview of the activities undertaken by people using the modules.

MODULE 1: PROGRAM ORIENTATION. This module gives an overview of the training program and the procedures to be used. It also allows time for the workshop members to get to know one another quickly and pleasantly. The major activity of the session is the completion of an Information/Attitude Survey (Figure 1). This survey is used before and after the workshop to assess the attitudes of the participants and to see if any changes have occurred.

MODULE 2: PEOPLE'S REACTIONS TO DISABILITIES. This module involves several self-awareness activities, getting participants to look at their attitudes and reactions to disability. A ranking activity gets people to order various handicapping conditions according to their acceptability "if you were suddenly to acquire one at noon today" (see Figure 2). Next, participants are asked to visualize themselves with a disability while experiencing a typical day. These activities lead to a group discussion in which members realize that others share similar reactions to and concerns about disability. The module ends with the suggestion that what is important is to realize that the handicapped person needs others to regard her or him as a capable individual.

MODULE 3: THE ATTITUDES OF OTHERS AND CONSEQUENCES ON THE DISABLED. This module builds on the suggestion presented at the end

of the last module—that it is important to realize that the handicapped person needs others to regard him or her as a capable individual. It provides a series of activities centered around a film, "These People Are Working." These activities involve participants in three major activities: (1) making a judgment as to the ability of specific disabled people to perform job tasks such as getting to work, making quick decisions, communicating with others, and reading reports; (2) citing things that contributed to the disabled worker's success and things that might have been barriers if the worker had allowed them to be; and (3) reviewing the problems of the disabled in career development and later success in life. In the course of doing this activity, stereotypes are brought out and addressed.

MODULE 4: TAKING ACTION. This module helps to develop participants' awareness of some common myths attached to hiring the handicapped. It also provides specific skills necessary for interviewing and counseling handicapped people. And, finally, it allows for the creation of a group plan of action to implement within the participants' community (see the Plan-Of-Action worksheet in Figure 3). The module also has optional activities—role playing of a counseling/interviewing session, for example.

MODULE 5: FINALE. This module is a wrap-up of the workshop and includes completion of the Information/Attitude Survey. It concludes with a workshop evaluation.

Figure 4

INFORMATION/ATTITUDE SURVEY

Indicate which of the following statements you personally feel to be true or false by placing a "T" by a true statement and an "F" by a false statement.

Before the workshop place your responses on the lines to the *left* of the statements.

After the workshop you will be asked to reconsider your earlier responses and indicate whether each statement is true or false by filling in the blanks to the *right* of the statements. (Please keep this form with you during the workshop.)

BEFORE			AFTER
_____	1.	Usually I feel embarrassed or uncomfortable in the presence of a disabled individual.	_____
_____	2.	There are common reactions toward disabled individuals which many people may experience.	_____
_____	3.	Many people have felt negative reactions toword disabled individuals in many situations.	_____
_____	4.	Our reactions toward disabled individuals do not affect their self-confidence.	_____
_____	5.	Disabled individuals may fail to live up to their potential as a result of our typical reactions toward them.	_____
_____	6.	As a result of our reactions, disabled individuals may never develop to their potential as adults.	_____
_____	7.	You have to be careful what you say around disabled individuals.	_____
_____	8.	Disabled individuals usually have a "chip on their shoulder."	_____
_____	9.	You have to treat disabled workers with kid gloves.	_____
_____	10.	It's hard to find jobs disabled individuals can fill or do well.	_____

(continued on next page)

_____	11.	Disabled individuals are easy to get along with at work.	_____
_____	12.	You should not expect less from disabled workers.	_____
_____	13.	Disabled individuals can be employed.	_____
_____	14.	Most disabled individuals can be employed.	_____

Disabled persons, in particular, have problems in:

_____	15.	finding challenging, interesting work.	_____
_____	16.	having good relations with co-workers.	_____
_____	17.	receiving constructive career counseling.	_____
_____	18.	handling family responsibilities and a job.	_____
_____	19.	adapting to job change.	_____
_____	20.	receiving recognition for job competence.	_____
_____	21.	handling responsiblity.	_____
_____	22.	having equal job opportunities.	_____

Figure 5

RANKING SHEET

Suppose at noon today you might suddenly acquire one of the following ten conditions. Place them in rank order from most acceptable (#1) to least (#10) acceptable.

____ AMPUTEE Both arms at shoulder

____ BLIND Light perception only

____ CEREBRAL PALSY Spastic CP with leg use affected more than arms, some speech impairment

____ CLEFT PALATE Characteristic speech, not entirely correctable cosmetically

____ SEVERELY TO PROFOUNDLY DEAF 80 to 100 DB loss both ears (can hear only very loud sounds, e.g., jack hammer; since this disability was suddenly acquired, you may assume normal speech, but as yet no signing, speech-reading, or related communication skills.)

____ EMOTIONALLY DISTURBED Manic depressive, occasional sudden fits of depression and/or anger

____ EPILEPSY No obvious overt signs

____ MENTAL RETARDATION IQ 60 to 65

____ PARAPLEGIC Wheelchair bound, paralysis of legs only

____ STUTTERING Frequent blocks and repititions

Is there an underlying value system or reason that made you rank these conditions the way you did? If so, what?

_____

_____

_____

_____

Figure 6

PLAN OF ACTION WORKSHEET*

This worksheet is designed to help you clarify your thoughts concerning instigating a change in your department/employment site toward hiring the handicapped.

I. *The Situation* (State the situation as it is now.)

II. *The Ideal* (Describe, in a paragraph or two, the current situation as it *would be* in its *ideal* form.)

III. *Pros & Cons* (Itemize the "Pros" and "Cons"—the assets and liabilities you have available to help or hinder you in implementing your ideal plan.)

	Pros	*Cons*
Within Me	1.	1.
	2.	2.
Within Others	1.	1.
	2.	2.
Within Environment	1.	1.
	2.	2.

IV. *Action Steps* (What realistic action steps could you take to move toward your ideal situation? List them here.)

1.
2.
3.

V. *Commitment* (What step could you commit yourself to taking immediately to implement this change? List that step; your time line (deadline) for completion; and sign your name.)

Step:

Time:

Signature:

VI. *Review* (File this plan in a convenient place after completion of Part V. Review your plan one week after completion of Part V. How are you doing?)

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*Adapted from form designed by Dr. R. Ripley, Counselor Ed., Arizona State University.

SUGGESTIONS FOR REPLICATION

The "It's What You *Can* Do That Counts!" workshop is completely transportable; it includes all the directions and materials needed to conduct the program. Although it is designed as a half-day workshop, it can easily be expanded to a one-day or two-day program, especially if supplemented with local resource people from organizations concerned with the career development and employment of handicapped people.

SELECT PARTICIPANTS CAREFULLY. Participant selection is a key to the success of the workshop. Workshops that are fairly equally divided among employers, counselors, and handicapped resource people tend to produce the best results. Depending upon the locality, recruitment of one or more subgroups may be more difficult. Employers are often the most difficult to get; it is vital to sell them on the importance of their contribution to the workshop—and, in turn, on the value of the workshop to them. In recruiting handicapped resource people, look for success stories in the community, and recruit enough people so that each small group has the opportunity to work with a disabled person. Also, make sure that a variety of disabilities is represented among the resource people. The workshop materials have further tips on potential resources for recruiting participants, sample invitational letters, and other planning suggestions.

CONSIDER LOGISTICS CAREFULLY. It would be a cause of great embarrassment if the facilities were not accessible to handicapped participants. Thus, a careful check should be made of meeting room doors, parking lots, restrooms, restaurants, and, in the event that overnight stays are required, guest rooms. Beyond this, however, special care is required to make sure that the room is of a suitable size, that the seating is comfortable, that refreshment tables, the registration area, and room exits are so located that foot traffic during the meeting is minimally disruptive, that adequate electrical outlets are available, and that all necessary equipment is in place and functioning properly well before zero hour. A checklist covering these and related matters is included in the workshop materials—careful attention to them is critical.

ADAPT THE WORKSHOP FOR DIFFERENT AUDIENCES. Many of the activities in the various modules are suitable for almost any audience. Others, however, may have to be adapted. For example, if the audience will include elementary or junior high school teachers, for whom student employment is not an immediate concern, then some of the activities, particularly in modules 3, 4, and 5 will have to be adapted. For example, instead of using a film that deals with handicapped people in a work situation, one can use materials more directly related to the classroom and explore factors making for success or failure there.

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